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Brucellosis Eradication

Uniform Methods and Rules

Effective
April 1, 1981



Animal and
Plant Health
Inspection
Service

Veterinary
Services

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Foreword

This publication is the Brucellosis Eradication Uniform Methods and Rules for establishing and maintaining:

1. Certified Brucellosis-Free Herds of Cattle
2. Modified Certified Brucellosis Areas
3. Certified Brucellosis-Free Areas
4. Validated Brucellosis-Free Herds of Swine
5. Validated Brucellosis-Free Areas

The provisions of these methods and rules were approved by the U.S. Department of Agriculture, Animal and Plant Health Inspection Service, as the minimum standards for achieving and maintaining certified and validated herds and certified and validated area status after careful consideration of the recommendations by the United States Animal Health Association.

Part I of Chapter I and Chapter II contains the definitions of terms as used in these Uniform Methods and Rules. Part II of Chapter I and Chapter II contains the procedures to be followed. These procedures are in fact the minimum program standards for conducting the National Cooperative State-Federal Brucellosis Eradication Program. The definitions and procedures (Parts I and II) in Chapter I apply to bison as well as to cattle.

Effective January 1, 1982, Chapter I, Parts V and VI will be terminated. At that time, area status will be Statewide and described as follows: Class A (Brucellosis Free), Class B (Intermediate Risk of Brucellosis), and Class C (Higher Risk of Brucellosis). Suggested standards for these classes are currently available in Section 6 of the Report of the National Brucellosis Technical Commission, August 28, 1978.

The publication may be amended in the future by the replacement or addition of revised pages. Particularly, the terminated Parts V and VI will be replaced by new Parts to contain the standards for whole States' classification.



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Chapter I—Bovine Brucellosis

Part I

Definitions (not alphabetized: see contents for alphabetized reference)

A. Reactor¹

Official vaccines of dairy breeds 20 months of age and over and official vaccines of beef breeds 24 months of age and over (as evidenced by the presence of the first pair of permanent incisor teeth) or official vaccines under these ages that are parturient (springers) or postparturient are classified serologically as reactors when they disclose complete standard plate test (SPT) or standard tube test (STT) agglutination reactions in the blood titer dilution of 1:200 or higher; are positive to the brucellosis card test where it has been the only test conducted; disclose titers of 25 percent fixation (1 plus) in a dilution of 1:40 or higher on the complement-fixation (CF) test; disclose a complete agglutination reaction in the 1:25 dilution or higher on the rivanol test; or are found infected by other diagnostic procedures such as isolation of *Brucella abortus*.

All other cattle more than 6 months of age are classified serologically as reactors when they disclose a complete agglutination reaction in the blood titer dilution of 1:100 or higher; are positive to the card test where it has been the only test conducted; disclose titers of 50 percent fixation (2 plus) in a dilution of 1:20 or higher on the complement-fixation test; disclose a complete agglutination reaction in the 1:25 dilution or higher on the rivanol test; or are found infected by other diagnostic procedures such as isolation of *Brucella abortus*.

Where approved whole herd vaccination of herds at high risk (including Certified Brucellosis-Free herds, infected herds, or herds not Certified Brucellosis-Free) with reduced doses of *B. abortus* Strain 19 has been carried out, adult vaccinated (AV) tattooed or branded animals are considered reactors if the CF test has at least 25 percent fixation (1 plus) in a dilution of 1:40 or higher. A first test is recommended at 2 months or as early thereafter as possible following the whole herd vaccination in order to facilitate elimination of field strain infection. At less than 5 months postvaccination, animals are considered reactors if a complete agglutination reaction occurs in the 1:50 dilution or higher on the rivanol test. On tests at more than 5 months postvaccination, animals are considered reactors if a complete agglutination reaction occurs in the 1:25 dilution or higher on the rivanol test.

The evaluation of titer responses for all cattle shall be the responsibility of a trained, experienced epidemiologist(s) who has been designated to perform and/or supervise this function in each of the States taking into consideration the animal and herd history and other epidemiologic considerations. The selection of the epidemiologist shall be made jointly by the cooperating animal health officials, the Regional Epidemiologist, and the brucellosis staff of Cattle Diseases Staff, Veterinary Services (VS). Deviations from the above reactor criteria are acceptable when made by the designated epidemiologist.

¹ Also see Part II, I—"Classification of Cattle."

B. Suspect¹

Official vaccines of dairy breeds 20 months of age or over and official vaccines of beef breeds 24 months of age and over (as evidenced by the presence of the first pair of permanent incisor teeth) or official vaccines under these ages that are parturient (springers) or postparturient are classified as suspects serologically when they disclose any SPT or STT agglutination reactions in the dilution of 1:100 or incomplete agglutination in the 1:200 dilution. Cattle serologically negative to the SPT or STT tests but which are positive to the brucellosis card test, if it is performed, are serologically classified as suspects. When the CF test is conducted, all test-eligible cattle having less than 25 percent fixation (1 plus) in the dilution of 1:40 and 50 percent (2 plus) or more in a dilution of 1:10 are classified as suspects serologically.

All other cattle more than 6 months of age are classified as suspects serologically when they disclose any SPT or STT agglutination reactions in the blood titer dilution of 1:50 or incomplete agglutination in the 1:100 dilution. Cattle serologically negative to the SPT or STT tests but which are positive to the brucellosis card test, if it is performed, are serologically classified as suspects. When the CF test is conducted, all cattle more than 6 months of age having less than 50 percent fixation (2 plus) in a dilution of 1:20 and 50 percent fixation (2 plus) or more in a dilution of 1:10 are classified as suspects serologically.

The evaluation of titer responses for all cattle shall be the responsibility of a trained, experienced epidemiologist(s) who has been designated to perform and/or supervise this function in each of the States taking into consideration the animal and herd history and other epidemiologic considerations. The selection of the epidemiologist shall be made jointly by the cooperating animal health officials, the Regional Epidemiologist, and the brucellosis staff of Cattle Diseases Staff, Veterinary Services (VS). Deviations from the above suspect criteria are acceptable when made by the designated epidemiologist.

C. Negative¹

Official vaccines of dairy breeds 20 months of age or over and official vaccines of beef breeds 24 months of age and over (as evidenced by the presence of the first pair of permanent incisor teeth) or official vaccines under these ages that are parturient (springers) or postparturient are classified as negative serologically when the SPT or STT discloses reactions of not more than complete agglutination in the 1:50 dilution, if performed; are negative to the brucellosis card test, if performed; discloses 25 percent fixation or less (1 plus) at the 1:10 dilution of the CF test, if performed; or discloses less than complete agglutination at the 1:25 dilution on the rivanol plate agglutination test, if performed.

All other cattle more than 6 months of age are classified as negative serologically when the SPT or STT discloses reactions of not more than complete agglutination in the 1:25 dilution, if performed; are negative to the brucellosis card test, if performed; discloses 25 percent fixation or less (1 plus) at the 1:10 dilution on the CF test, if performed; or discloses less than complete agglutination at the 1:25 dilution on the rivanol plate agglutination test, if performed.

Blood samples collected at slaughter are serologically negative when no evidence of agglutination is disclosed by the rapid screening test (RST) or buffered acidified plate antigen test. Blood samples collected at livestock markets are serologically negative when no evidence of agglutination is disclosed on the buffered acidified plate antigen test. Blood samples collected at slaughter or at livestock markets showing some agglutination to the rapid screening test or the buffered acidified plate antigen test, as appropriate, are classified negative if the confirmatory test (brucellosis card test or SPT) is negative.

D. Test-Eligible Cattle

1. *Herd blood test*—Herd tests shall include all cattle over 6 months of age except steers, spayed heifers, official calfhood vaccines of the dairy breeds under 20 months of age, and official calfhood vaccines of beef breeds under 24 months of age (as evidenced by the presence of the first pair of permanent incisor teeth) which are not parturient (springers) or postparturient.
2. *Market Cattle Identification (MCI) blood testing*
 - a. *Slaughtering establishment*—All cows and bulls over 2 years of age shall be blood sampled.
 - b. *Livestock markets, farm, or ranch*—Blood sampling shall be for all cattle over 18 months of age (as evidenced by the loss of the first pair of temporary incisor teeth) except steers, spayed heifers, official calfhood vaccines of the dairy breeds under 20 months of age, and official calfhood vaccines of beef breeds under 24 months of age (as evidenced by the presence of the first pair of permanent incisor teeth) which are not parturient (springers) or postparturient.
3. *Other movements*—Tests shall be the same as 2, b.

E. Herd Blood Test

The herd blood test must include all test-eligible cattle (Part I, D, 1, above). Bulls, steers, and female cattle being held in feedlots which meet the requirements defined in Part I, I (Quarantined Feedlot) are exempt from herd blood test requirements because they are not defined as herds. The tested cattle shall be identified with an official eartag (Part I, M) or official registration tattoo on purebred cattle. Large-numbered, unique, plastic bangle tags may be used additionally if correlated on test records with the official eartag.

F. Herd

A herd is all cattle (genus *Bos*) under common ownership or supervision that are grouped on one or more parts of any single premises (lot, farm, or ranch). A herd is all cattle (genus *Bos*) on two or more premises geographically separated but on which the cattle have been interchanged or where there has been contact of cattle between the premises. Such contact shall be accepted as having occurred unless otherwise established by the owner. In addition, the noninterchange of cattle and/or lack of contact must be consistent with the findings of the epidemiologic investigation. (Quarantined feedlots Part I, I, and Quarantined pastures Part I, J, are not herds.)

For brucellosis eradication purposes, groups of cattle under multiple ownership on common premises, such as community pastures, grazing association units, etc., shall also be considered as a herd. Such herds shall include all other groups of cattle owned by those persons unless the epidemiologic investigation establishes that association has not occurred.

For determining herd infection rates, such negative multiple ownership may be counted as separate herds at risk and only designated as a single unit when classified as affected.

G. Individual Herd Plan

A herd management and testing plan designed by the herd owner, his veterinarian if so requested, and a veterinarian of the Cooperative Brucellosis Eradication Program which will control and eventually eradicate brucellosis from an affected herd. A similar plan for determining the true status of suspects and preventing exposure to brucellosis within the herd is also within the meaning of the term "individual herd plan."

The plan will utilize those veterinary procedures most applicable and the proven herd management procedures necessary to assist these procedures in controlling the spread of brucellosis within the herd and thereby eradicating the disease from the herd. (See Part II, T.)

H. Feedlot

A confined drylot area for finish feeding of animals on concentrated feed with no facilities for pasturing or grazing. The feedlot shall not hold animals which have not met the required testing procedures at origin and destination.

The feedlot must be treated as a herd if infection is traced to it by surveillance procedures or by epidemiological measures. This would mean quarantining of the feedlot and the breeding animals on the premises until released by the slaughter of all quarantined animals in the feedlot or alternatively by testing procedures.

I. Quarantined Feedlot

A quarantined feedlot shall be a confined area under official State quarantine and shall be approved jointly by the State and Federal animal health officials. All animals in a quarantined feedlot shall be classified as exposed to brucellosis. The quarantined feedlot shall be maintained for finish feeding of animals in drylot with no provisions for pasturing or grazing. There shall be no breeding or "two-way" cattle allowed in the quarantined feedlot. All negative exposed animals and all untested test-eligible cattle must be permanently identified with a hot iron "S" brand either on the left jaw or high on the tailhead (over the fourth to the seventh coccygeal vertebrae) upon entering such feedlots. All cattle except steers and spayed heifers leaving such feedlot must go directly to slaughter; or may be moved directly to another quarantined feedlot with a permit from the State animal health official; or may be "S" branded at the feedlot and move to a market to be sold for movement with a 1-27 permit issued at the market directly to another quarantined feedlot or directly to slaughter. The animal health officials shall establish procedures for accounting of all animals entering or leaving such quarantined feedlots. Community notification shall be made of the presence of a quarantined feedlot (see Part II, F).

J. Quarantined Pasture

A quarantined pasture shall be a designated, confined area for grazing under official State quarantine and shall be approved jointly by the State and Federal animal health officials. In all areas, animal health officials shall request approval from the Deputy Administrator, Veterinary Services, APHIS, and justify the need. Where approved, quarantined pastures may receive only intrastate cattle and may not involve interstate movements except to slaughter or quarantined feedlots. An intensified eradication effort which produces large numbers of exposed or adult vaccinated animals needing the grazing period to reach slaughter condition would be an acceptable justification. All animals in the quarantined pasture shall be classified as exposed to brucellosis. The quarantined pasture shall be for the purpose of utilizing available forage to grow or to improve flesh condition of cattle. There shall be no breeding or "two-way" cattle allowed in the quarantined pasture. Sex shall be the same (e.g., all cows or all bulls except that neutered animals may share the quarantined pasture. All animals except steers and spayed heifers must be permanently identified with a hot iron "S" brand either on the left jaw or high on the tailhead (over the fourth to the seventh coccygeal vertebrae) upon entering the quarantined pasture). All animals except steers and spayed heifers leaving the quarantined pasture must move only for immediate slaughter or to a quarantined feedlot. The movement shall be in accordance with established procedures for handling quarantined (exposed) animals (see Part II, M) including issuance of "S" brand permits prior to movement.

The animal health official shall establish procedures for accounting of all animals entering or leaving the quarantined pasture. Approval of a quarantined pasture shall not exceed a period longer than 10 months. All exposed cattle must vacate the premises on or before the expiration of approval. Community notification shall be made of the presence of a quarantined pasture.

K. "S" Branded Cattle

Cattle which have been identified by branding with a hot iron the letter "S" (at least 2x2 inches) placed on the left jaw or high on the tailhead (over the fourth to the seventh coccygeal vertebrae). "S" branding is required for exposed cattle and for untested test-eligible cattle, originating in modified certified and noncertified areas, to move in marketing channels from farms or markets to quarantined feedlots (Part I, I), to quarantined pastures (Part I, J), or to immediate slaughter if moved by rail or motor carriers. Testing of test-eligible cattle is recommended in lieu of "S" branding. Finished fed heifers moving in marketing channels directly to slaughter will be exempted from the "S" branding requirement.

L. Permit

1. *Permit*—As used in these rules, except for the terms "permit for entry" and "S" brand permit, a permit shall mean an official document (VS Form 1-27 or comparable State form) issued by a Veterinary Services representative, State representative, or accredited veterinarian which is required to accompany "B" branded cattle and bison (or exposed cattle and bison moved under official seal). It will list one of the following: the identification tag, tattoo, USDA backtag, registration number, or similar identification. It will also list the reactor tag number, owner's name and address, origin and destination locations, number of cattle covered, and the purpose of the movement. If a change in destination becomes

necessary, a new permit must be prepared. No diversion from the permitted destination is allowed. Distribution of the copies is printed on the official document and must be followed.

2. *Permit for entry*—As used in these rules, a permit for entry shall mean a premovement authorization for entry of cattle into a State from the animal health official in that State. The authorization will state the conditions under which movement may be made, and these conditions may be in addition to the requirements of these UM&R and Code of Federal Regulations.
3. *"S" brand permit*—As used in these rules, an "S" brand permit shall mean any document which is required to accompany animals in marketing channels having a restricted destination. It must show the origin, the destination, the number of restricted cattle, the purpose of the movement, the USDA backtag numbers (when applied serially, only the beginning and the ending number need be recorded), and a statement certifying to the "S" brand identification. It shall be prepared at the point of origin by an accredited veterinarian, a representative of the animal health officials, or a designated official at a quarantined feedlot. A copy of this "S" brand permit shall be immediately sent to the State animal health official with the original accompanying the animals. The original shall be delivered at the destination and retained at that location for a minimum of 6 months.

M. Official Eartag

An official eartag is a metal identification eartag conforming to the nine-character alpha-numeric National Uniform Eartagging System and of appropriate color (e.g., orange for vaccination). It provides unique identification for each individual animal.

N. Market Test Animals

Market test animals are test-eligible animals (Part I, D, 2) moving in tradethrough auction markets, stockyards, or to slaughtering establishments; also they are those animals assembled at farms or ranches that are being readied for immediate movement to markets, stockyards, or slaughtering establishments or other sales. Such animals shall be identified by eartag and/or backtag to the herd of origin prior to or at the first point of concentration in marketing channels.

O. Approved Brucella Vaccine

A product that is approved by and produced under license of the U.S. Department of Agriculture for injection into cattle to enhance their resistance to brucellosis.

P. Official Vaccinate

1. For States administering an approved brucella vaccine containing a minimum of 25 billion live cells per 5 ml dose:
 - a. *Official calfhood vaccinate*. Female cattle of a dairy breed vaccinated by a Veterinary Services representative, State representative, or accredited veterinarian with an approved *Brucella abortus* Strain 19 vaccine in accordance with its labeling while from 2 through 6 months (60 to 179 days) of age. Female cattle of a beef breed or female bison vaccinated by a Veterinary Services representative, State representative, or accredited veterinarian with an approved *Brucella abortus* Strain 19 vaccine in accordance with its labeling while from 2 through 10 months (60 to 299 days) of age. Vaccinated animals

must be permanently identified as vaccines and reported at the time of vaccination to the appropriate State or Federal agency cooperating in the eradication of brucellosis.

- b. *Official adult vaccinee.* Female cattle of a dairy breed vaccinated by a Veterinary Services representative, State representative, or accredited veterinarian with an approved *Brucella abortus* Strain 19 vaccine diluted as instructed by the Veterinarian in Charge and the State animal health official while over 6 months (179 days) of age and as part of a whole herd vaccination plan authorized by the State animal health official and Veterinarian in Charge. Female cattle of a beef breed vaccinated by a Veterinary Services representative, State representative, or accredited veterinarian with an approved *Brucella abortus* Strain 19 vaccine diluted as instructed by the Veterinarian in Charge and the State animal health official while over 10 months (299 days) of age and as part of a whole herd vaccination plan authorized by the State animal health official and the Veterinarian in Charge.

Vaccinated animals must be permanently identified as adult vaccines and reported at the time of vaccination to the appropriate State or Federal agency cooperating in the eradication of brucellosis.

2. For States administering brucella vaccine containing at least 300 million and not more than 3 billion live cells per 2 ml dose:

- a. *Official calfhood vaccinee.* Female cattle of any breed or female bison vaccinated while from 4 through 12 months (120 through 365 days) of age by a Veterinary Services representative, State representative, or accredited veterinarian with *Brucella abortus* Strain 19 vaccine diluted as instructed by the Veterinarian in Charge and the State animal health official.

Vaccinated animals must be permanently identified as vaccines and reported at the time of vaccination to the appropriate State or Federal agency cooperating in the eradication of brucellosis.

- b. *Official adult vaccinee.* Female cattle of any breed or female bison vaccinated while over 365 days of age by a Veterinary Services representative, State representative, or accredited veterinarian with *Brucella abortus* Strain 19 vaccine diluted as instructed by the Veterinarian in Charge and the State animal health official and as a part of whole herd vaccination plan authorized by the State animal health official and the Veterinarian in Charge.

Vaccinated animals must be permanently identified as adult vaccines and reported at the time of vaccination to the appropriate State or Federal agency cooperating in the eradication of brucellosis.

Q. Whole Herd Vaccination

With "Whole Herd Vaccination," animals older than the age of official vaccination can be vaccinated under specific conditions with a reduced dose of vaccine. All eligible calves shall also be vaccinated and identified. (See Part II, R—Whole herd vaccination plan.)

R. Identification of Vaccinates

1. *Calfhood vaccines*—Calfhood vaccinated animals shall be permanently identified as vaccines by tattoo and by official vaccination eartag. (If already identified with an official eartag prior to vaccination, an additional tag is not required.) Vaccination tattoos must be applied to the right ear. The tattoo will include the U.S. Registered Shield and V, which will be preceded by a number indicating the quarter of the year and will be followed by a number corresponding to the last digit of the year in which the vaccination was done. Official vaccination eartags shall be applied to the right ear. The eartag will include the State prefix and a V, followed by two letters and four numbers which will individually identify such vaccinated animal. Individual animal registration tattoos or individual animal registration brands may be substituted for official eartags.
2. *Over calfhood age*—Animals which have been vaccinated over calfhood age in authorized “whole herd” vaccination herds shall be permanently identified as vaccines by the following procedures:
 - a. *Brucellosis-affected herds and herds not Certified Brucellosis Free but at high risk*—By an open ended “V” hot brand on the right jaw, or by an official “AV” (adult vaccination) tattoo in the right ear preceded by the quarter of the year and followed by the last digit of the year, as well as the official metal eartags (or individual animal registration tattoo or individual animal registration brand) applied at the time of conducting the required preliminary blood test. Large-numbered, unique, plastic bangle tags are recommended to be used additionally and to be correlated on test records with the official eartag.
 - b. *Certified Brucellosis-Free herds*—By an official “AV” (adult vaccination) tattoo in the right ear preceded by the quarter of the year followed by the last digit of the year as well as the official metal eartags (or individual animal registration tattoo or individual animal registration brand).

S. Traceback of Reactors

1. *Successful traceback of reactors*—A successful traceback occurs when the premises or herd of origin of a market test reactor, including those animals identified as reactors on laboratory confirmation of market test, is located and the herd (as defined in Part I, F) is tested as is deemed necessary. Tracebacks to dealers, commission firms, and such, are not considered successful tracebacks of reactors if the investigation ceases at that point and all possible herds of origin are not tested. “Soldout” herds to be considered as successful traceback shall be confirmed by documentation of total slaughter and shall have no cattle remaining (see Part I, F, “Herd”). Tracebacks to feedlots (Part I, H) are successful and are to be treated as a herd. Tracebacks to quarantined feedlots (Part I, I) and to quarantined pastures (Part I, J) are successful and are reported as traced to known reactor herds. A preentry test of test-eligible cattle is strongly recommended for cattle entering these quarantined feedlots and quarantined pastures.
2. *Epidemiologic investigation of reactors*—Every traceback requires an epidemiologic investigation and followup as outlined in (a) and (b) below

(including traces to "soldout" herds) to effectively locate and control the disease. This investigation must include the following:

- a. *Reactors in marketing channels with positive CF, RIV, or appropriate supplemental test titers:*
 - (1) Contact and/or adjacent herds shall be identified, recorded, and investigated.
 - (2) Blood test the herd of origin (Part I, F) unless the epidemiological investigation indicates that the titers are not caused by field strains of *B. abortus*. Where a blood test is not conducted, the representative of the cooperating animal health agencies will prepare a statement indicating this was discussed with the owner or his representative and listing the reasons the herd was not tested. The statement shall be signed by both parties and both parties shall retain a copy.
 - (3) In Certified Brucellosis-Free Areas, all sales following the estimated date of onset of infection shall be traced and the herds of destinations identified, recorded, and investigated for evidence of infection by testing. If not tested, an agreement as in (2) shall be made. In Modified Certified Brucellosis Areas, this will be carried out to the extent resources are available.
 - (4) If the herd is negative, the herd will be retested 30–90 days later if deemed necessary by the epidemiologist.
- b. *Reactors in marketing channels which are not positive to the CF, RIV, or supplemental tests:* The owner shall be advised of these results by writing, by telephone, or by a personal visit. A joint decision shall be reached to test or not to test the herd. Any decision not to test shall be documented. The herd shall be tested if reasonable doubt exists as to the reason for the serologic response, or if evidence of brucella infection is present, or if the status of contact or other neighborhood herds is questionable.

T. Tested Herd

(This classification of herds replaces the former L, "Qualified Herd," definition and will be discontinued on January 1, 1982, with the implementation of serologic test Option Number 2. The definition will apply to herds located in noncertified areas only. (See Part V and VI.) A tested herd is a herd of cattle located in a noncertified area for which the State has records showing that the herd has been officially tested for brucellosis in accordance with the procedures for herd tests for initial modified area certification specified in Part V of these Brucellosis Eradication Uniform Methods and Rules within 12 months prior to movement and that the herd is not known to be affected with brucellosis. (For movement requirements, see Parts V and VI, 8, c, (3).)

U. Certified Brucellosis-Free Herd

See Part IV.

V. Exposed Animals	Animals that are part of a known infected herd or that have been in contact with brucellosis reactors in marketing channels for periods of 24 hours or periods of less than 24 hours if the reactor has recently aborted, calved, or has a vaginal or uterine discharge are considered to be exposed regardless of the blood test results and must be placed under quarantine and restricted pending slaughter or testing after return to herd of origin. (See Part II, M, for handling procedures.) (The following definition will become effective as soon as possible but no later than January 1, 1982. EXPOSED ANIMALS—Animals that are part of a known affected herd or have been in contact with brucellosis reactors in marketing channels are considered to be exposed regardless of the blood test results.)
W. Cattle	The term cattle (genus Bos) includes all dairy and beef animals.
X. Dealer	<ol style="list-style-type: none"> 1. Any person engaged in the business of buying or selling livestock in commerce either on his own account or as the employee or agent of the vendor and/or purchaser, or 2. Any person engaged in the business of buying or selling livestock in commerce on a commission basis. 3. The term shall not include a person who buys or sells livestock as part of his own bona fide breeding, feeding, or dairy and/or beef operations and is not engaged in the business of buying, selling, trading, or negotiating the transfer of livestock, nor a person who receives livestock exclusively for immediate slaughter on his own premises.
Y. Auctioneer	A person who sells or makes a business of selling livestock at auction.
Z. Auction	A public sale of livestock to the highest bidder.
AA. Commission Firm	A person, partnership, or corporation who buys and sells livestock as a third party and reports to the seller and/or to the buyer details of the transactions. This includes any such person or groups whether or not a fee is charged for the service.
BB. Commission Sales	Those sales which are conducted by a third party, who reports to the seller and/or to the buyer details of the transactions.

Part II Procedures—Minimum Program Standards

A. Laboratories

Blood samples are to be tested only by cooperating State-Federal laboratories or by such persons as may be authorized to conduct the standard agglutination tests or the card test. All samples initially tested at other than cooperating State-Federal laboratories shall be promptly submitted and confirmed at the cooperating State-Federal laboratory. Each State or region shall have the laboratory capability of conducting the complement-fixation and rivanol tests, and of bacteriological culturing services for viability counts of vaccine and/or for the isolation of *B. abortus* from milk and tissues. A cooperative system shall exist with States, universities, and industry for regular review of the training and the performance of laboratory personnel and for assisting laboratories in the development of systems of continuing quality control for all laboratory tests and culturing procedures. State and regional laboratories shall be evaluated by a review committee, which includes qualified epidemiologists, at least once in each 3-year period.

B. Reporting

Activities conducted privately or as part of the official brucellosis eradication program, such as results of agglutination tests or vaccination, shall be reported immediately to cooperating agencies and to the herd owner.

C. Supervision

The official Brucellosis Eradication Program shall be supervised by full-time animal health veterinarians.

D. Quarantines

All cattle, except steers and spayed heifers, including officially vaccinated heifers and calves in affected herds, shall be confined to the premises until the herd is freed of brucellosis or sold for slaughter under permit or "S" brand permit (see Part II, M, for an exception). Two consecutive negative herd blood tests are required for release of quarantine with the first negative herd blood test occurring not less than 30 days after the removal and slaughter of all previous reactors. The releasing test (the required second negative herd blood test) shall occur not less than 120 days following the removal of the last reactor. The releasing test shall include all non-neutered cattle over 6 months of age. (The purpose for the test of the official vaccines of dairy breeds under 20 months of age and of beef breeds under 24 months of age is to establish "base-line" titers in evaluating the probability of field strain brucella infections in these animals when retested.)

Exceptions on the interval between tests required for the release of quarantine are allowable only when *Brucella abortus* Strain 19 organisms have been isolated from the reactor animal or all epidemiologic evidence is consistent with a *Brucella abortus* Strain 19 infection and not with field strain infection.

Certified Brucellosis-Free herds quarantined for a whole herd vaccination program, may be released in accordance with the provisions of Part II, R, 3, b.

In all areas, an additional blood test of all non-neutered cattle over 6 months of age in the herd is required either not less than 6 months or more than 12 months after release of an affected herd from quarantine or not less than 10 months or more than 16 months after removal of the last reactor.

E. Retests of Affected Herds

Retests of affected herds shall be conducted in accordance with an individual herd plan (Part II, T). Under routine conditions, retests are recommended at approximately 30-day intervals until the herd has passed at least one negative herd test following the removal and sale for slaughter of the last reactor. A second consecutive negative herd blood test occurring not less than 120 days following the removal of the last reactor is necessary to qualify herds for release of quarantine as indicated in Part II, D. Continuation of testing is strongly recommended at 30-day intervals between the first and second negative herd tests which qualify the herd for quarantine release.

F. Community Notification of Brucellosis Affected Herds

The status of herds placed under quarantine for brucellosis and the approval of quarantined feedlots and quarantined pastures are to be made known to herd owners in the immediate community. Such herd owners shall be notified by means of an educational letter delivered through personal contact or by mail within 30 days of the issuance of the quarantine. The purpose of this notification is to emphasize to owners the importance of taking appropriate actions to protect their cattle against the disease threat posed to them by the presence of an affected herd in their community. When the herd quarantine is released, or the quarantined feedlot approval is terminated, the herd owners shall also be notified within 30 days by an educational letter delivered through personal contact or by mail.

G. Adjacent Herd and Epidemiologically Traced Herd Testing

Adjacent herds, or herds sharing common pasture or having other contact with the affected herd, and herds containing previous purchases from or exchanges with the affected herd shall have an adjacent herd plan within 30 days of disclosure of the affected herd. (See Part III, C.) The plan may involve testing up to the level of an infected herd. If a disagreement occurs, consultation between the herd owner, chief animal health official, the epidemiologist, and the owner's veterinarian if requested will be held to resolve the situation.

When the quarantine is released on the brucellosis affected herd, the owners of the potentially exposed herds, as described above, shall be notified of the desirability of a second negative herd blood test. If the herd owner decides not to have a second test, the representative of the animal health agencies will prepare a statement indicating that the value of a second test was discussed with the owner and listing the reasons the herd was not further tested. A copy of this statement will be given the herd owner.

H. Cleaning and Disinfection

Premises shall be cleaned and disinfected under regulatory supervision within 15 days following the removal of reactors or the entire herd for slaughter or the requirements of 9 CFR 51 have been met to qualify for Federal indemnity.

I. Classification

1. *Card test*—Card test results are classified as either negative or positive. The card test is to be used as an official test to classify cattle as reactors only:
 - a. When conditions and time are such that no other test is available, or
 - b. On request of the owner and/or his agent because of time or situation constraints, or

c. In livestock markets when the State animal health official specifically designates the card test as the official test in livestock markets. No other test shall be used as an official test in those States where the card test has been given official test status in livestock markets.

Card tests may be used to classify animals negative on surveillance samples collected at slaughter, on routine samples collected on farms, and on tests of suspicious and affected herds. Results of the card test may be used in conjunction with other test results conducted in the State-Federal laboratory to aid in classification of cattle as reactors.

2. *Standard tube test (STT) or standard plate test (SPT)*—The blood titers of cattle tested by the STT or SPT methods are classified by use of the following:

Official Vaccinates

1:50	1:100	1:200	
—	—	—	NEGATIVE
	—	—	NEGATIVE
+	—	—	NEGATIVE
+		—	SUSPECT
+	+	—	SUSPECT
+	+		SUSPECT
+	+	+	REACTOR

All Others

1:50	1:100	1:200	
—	—	—	NEGATIVE
	—	—	SUSPECT
+	—	—	SUSPECT
+		—	SUSPECT
+	+	—	REACTOR
+	+		REACTOR
+	+	+	REACTOR

3. *Complement-fixation test (CF)*—The complement-fixation test when conducted by methods approved by National Veterinary Services Laboratories (NVSL) is an official test.
 - a. Interpretation for all nonvaccinated test-eligible cattle:
 - (1) Fifty percent fixation (2 plus) in a dilution of 1:20 or higher—reactor.
 - (2) Fifty percent fixation (2 plus) in a dilution of 1:10 but less than 50 percent fixation (2 plus) in a dilution of 1:20—suspect.
 - (3) Less than 50 percent fixation (2 plus) in a dilution of 1:10—negative.
 - b. Interpretation for all test-eligible vaccinated cattle including adult vaccinated animals beginning 2 months postvaccination:
 - (1) Twenty-five percent fixation (1 plus) in a dilution of 1:40 or higher—reactor.
 - (2) Fifty percent fixation (2 plus) in a dilution of 1:10 but less than 25 percent fixation (1 plus) in a dilution of 1:40—suspect.
 - (3) Less than 50 percent fixation (2 plus) in a dilution of 1:10—negative.
4. *Rivanol test*—The rivanol test is an official test when conducted in State-Federal laboratories. Complete agglutination at dilutions of 1:25 or more is a reactor. Less than complete agglutination at 1:25 is negative. There is no suspect classification with rivanol. Within 5 months postvaccination of adult cattle, a less than complete agglutination at the 1:50 dilution is negative.
5. *Semen plasma test*—The semen plasma test is approved as an official test in bulls used for artificial insemination when used in conjunction with another official serological test. The classification of such animals shall be based on the maximum agglutination titer of either the serological test or the semen test.
6. *Buffered acidified plate antigen presumptive test*—Buffered acidified plate antigen presumptive tests may be used to classify animals negative on surveillance samples collected at slaughter and at livestock markets. Such tests may also be used as presumptive tests for routine samples collected on farms where there is no evidence of brucellosis. On tests of suspicious and affected herds, buffered acidified plate antigen tests may be used in addition to other tests.
7. *Rapid screening test (RST)*—The RST may be used as a presumptive test for classifying animals negative in State-Federal laboratories.
8. *Supplemental tests*—Supplemental tests are other tests developed to aid in determining the presence or absence of blood components associated with field strains of *B. abortus*, *B. abortus* Strain 19, nonspecific agglutinins, etc. Of these,

only the card test is an official test when used as the sole test on a blood serum sample. Other procedures include ME (Mercaptoethanol), Coombs, HI at 56°C and 65°C (Heat Inactivation), APA (Acid Plate Antigen) at various pH's, FA (Fluorescent Antibody), ELA (Enzyme Labeled Antibody). Research being conducted may add other supplemental tests from time to time. Interpretation and the use of supplemental tests must be by the designated epidemiologist.

9. *Reclassification of reactors*—Animals initially classified reactors under Part I, A, may be eligible for reclassification provided a complete epidemiological investigation of the herd is conducted and there is no evidence of brucella infection or exposure thereto; and, provided final classification is determined by a qualified brucellosis epidemiologist. The herd must remain under quarantine pending final classification.

J. Identification of Reactor Cattle

All reactor cattle shall be permanently identified by hot iron branding with the letter "B" (at least 2x2 inches) placed on the left jaw. An approved reactor tag must be placed in the left ear. Identification of reactors must be accomplished within 15 days of the test date. The time may be extended 15 days for reasons mutually acceptable to the cooperating State and Federal officials in charge.

K. Identification by "S" Branding

1. *Exposed cattle*—All exposed cattle moving from a premises of origin or from a livestock market to a quarantined feedlot or quarantined pasture, or to slaughter shall be identified by branding with a hot iron the letter "S" (at least 2x2 inches) placed on the left jaw, or high on the tailhead (over the fourth to the seventh coccygeal vertebrae). Identification shall be prior to movement, or exposed cattle on the premises of origin may be identified and permitted to a livestock market where they shall be identified by "S" brand upon arrival. Exposed cattle returned from the livestock market to the herd of origin under quarantine pending further testing are exempt from this "S" branding requirement. Exposed cattle may move with an "S" brand permit from the farm of origin or from specifically approved markets direct to Federal or State inspected slaughtering establishments in a sealed truck without permanent identification by "S" brand as stated in Part II, M. Exposed cattle in herd depopulations shall be "B" branded to qualify for Federal indemnity instead of by "S" branding. An exception is allowed for finished fed heifers moving directly to immediate slaughter and for such cattle when movement to slaughter does not require rail or motor carrier transportation.
2. *Untested test-eligible cattle (Part I, D, 2, b)*—Such cattle in marketing channels having originated from modified certified areas or noncertified areas, which are being moved or sold shall be identified and moved in the same manner as prescribed for exposed cattle (see par. 1, above) unless they were part of a Certified Brucellosis-Free herd. Testing of test-eligible cattle is recommended in lieu of "S" branding.
3. *Suspects*—Cattle classified as suspects which are being moved or sold shall be identified and moved in the same manner as prescribed for exposed cattle (see par. 1, above).

Movements without change of ownership from a farm of origin directly to a livestock market are exempt from the "S" branding requirement, but the cattle must be tested upon arrival or be "S" branded.

L. Immediate Slaughter

1. *Reactor cattle*—Reactor cattle and "B" branded exposed cattle in herd depopulation must be sold for immediate slaughter and removed from the premises under State or Federal permit within 15 days of the date of identification. The time may be extended 15 days for reasons mutually acceptable to the cooperating State and Federal officials in charge. Reactors and "B" branded exposed cattle in herd depopulations shall remain on the premises where disclosed until a State or Federal permit for movement to slaughter has been obtained. Movement for immediate slaughter must be to a slaughtering establishment where Federal or State inspection is maintained or to a State or Federal approved market for sale to such slaughter establishment. There shall be no diversion from the permitted destination.
2. *Exposed cattle*—Exposed cattle consigned for immediate slaughter shall remain on the premises of origin until an "S" brand permit for movement to slaughter has been prepared. Movement for immediate slaughter must be to a slaughtering establishment where State or Federal inspection is maintained or to a State or Federal approved market for sale to such a slaughtering establishment. There shall be no diversion from the permitted destination.

M. Movement of Restricted Animals

Reactors, "B" branded exposed cattle, and "S" branded cattle must be moved under permit or "S" brand permit. There shall be no diversion from the permitted destination. When moved, the cattle must be maintained separate and apart from all other classes of livestock, in specially designed pens reserved for this purpose at livestock markets or trucking facilities. These pens must be thoroughly cleaned and disinfected before reuse. Calves under 6 months of age which are nursed by brucellosis-exposed cows may move from the quarantined premises within 10 days after a negative brucellosis test on the dam. Calves under 6 months of age which are nursed by brucellosis reactor or exposed cows may move from the quarantined premises provided they have been weaned for not less than 30 days immediately preceding the movement. However, officially vaccinated calves under 12 months of age and steers and spayed heifers of any age in a herd known to be affected but which is following an approved individual herd plan may move from any area into any area through December 31, 1981.

1. *Reactors and "B" branded exposed cattle*—Reactors and "B" branded exposed cattle in herd depopulations shall remain on the premises where disclosed until a State or Federal permit for movement to immediate slaughter has been obtained. Movement for immediate slaughter must be to a slaughtering establishment where Federal or State inspection is maintained or to a State or Federal approved market for sale to such slaughtering establishment.

2. *Exposed cattle*

- a. All exposed cattle moving from a premises of origin or from a livestock market to a quarantined feedlot, or to a quarantined pasture, or to immediate slaughter shall remain on the premises where disclosed until an "S" brand permit for movement to immediate slaughter has been prepared. Movement for immediate slaughter must be to a slaughtering establishment where Federal or State inspection is maintained or to a State or Federal approved market for sale to such slaughtering establishment. An exception is allowed for finished fed heifers moving directly to immediate slaughter and for such cattle when movement to slaughter does not require rail or motor carrier transportation.
- b. Exposed cattle may move from the farm of origin or from specifically approved markets directly to Federal or State inspected slaughtering establishments in a sealed truck without permanent identification by "S" brand. The entire truckload of cattle or other susceptible species must be consigned to slaughter at a single slaughtering establishment. Mixed loads of slaughter, feeder, or breeding cattle are not to be included in such shipments. The entire load must be consigned directly to slaughter with no diversion to holding feedlots, pastures, or dealer pens. Truck seals are to be placed by State or Federal animal health personnel during regular work hours, or by accredited veterinarians. A permit as defined in Part I, L, 1, with the appropriate seal number recorded on the permit, shall accompany each shipment. Cattle to be transported in sealed vehicles must remain on the premises until the appropriate animal health personnel or accredited veterinarian writes the permit and seals the vehicle. No post-authorized permits may be approved. Truck seals are to be broken by State or Federal animal health personnel during regular working hours, or by accredited veterinarians, or by a slaughtering establishment officer designated by Meat Inspection or by the State.
3. *Untested test-eligible cattle*—Untested test-eligible cattle of unknown status from modified certified areas or noncertified areas, which are being moved or sold, shall be identified and moved in the same manner as described for exposed cattle (see par. 2, above). Testing of test-eligible cattle is recommended in lieu of "S" branding.
4. *Suspects*—Suspects which are being moved or sold shall be identified and moved in the same manner as described for exposed cattle (see par. 2, above) except a vaccinated suspect(s) at a livestock market in a consignment of otherwise negative cattle (where the suspect is card positive on the presumptive test and negative to the CF or rivanol test(s)) may move as follows:

In a single consignment of cattle, which are from a producer's herd of origin, the owner shall either return the vaccinated suspect(s) under quarantine to the herd of origin until the suspect(s) is negative to the card test or classified a reactor; or sell the suspect(s) to a quarantined feedlot, quarantined pasture, or to slaughter,

identified with an "S" brand. Card negative cattle in this consignment may return to the herd of origin or move to another premises within the State provided all these cattle are negative to the CF or rivanol tests and provided all these cattle are held separate and apart from all other cattle on the premises of destination for retesting in 45 to 120 days, or move to a quarantined feedlot, a quarantined pasture, or to slaughter, identified with an "S" brand.

Consignments containing a presumptive card positive but CF or rivanol negative nonvaccinated suspect(s) shall be identified and moved as exposed cattle (see Part II, K, 1 and par. 2, above) or returned to the premises of origin under quarantine.

If the owner and the market operator agree in writing that they will be fully responsible to prevent contact or other exposure to non "S" branded cattle, such "S" branded cattle may be moved to one additional market and then to a quarantined feedlot, or to a quarantined pasture, or to immediate slaughter. All such movements must be under "S" brand permit, provided the movement is permissible by State laws, rules, and regulations.

N. Entering Premises

Persons engaged in the brucellosis eradication program shall be authorized under State authority to enter premises to carry out eradication procedures and shall practice such sanitary procedures so as to minimize the risk of physically transmitting the disease to other premises.

O. Services to Owner

Program services may be rendered without expense to the livestock owner; however, owners are to provide for handling of their cattle. Contracts with accredited veterinarians, nonprofessionals, other State and Federal agencies, or with the management of privately owned firms are to be used as needed to assist State and Federal animal health personnel accomplish necessary sample collections, animal identifications, and other activities. Within 3 days following notification of the results of an initial herd blood test, the owner may request an additional blood test on reactors at his expense provided such request is based on sound epidemiological evidence and provided all animals remain under herd quarantine.

P. Herd Depopulation

Herds with a high brucellosis infection rate or chronic infection of long duration shall be reviewed for possible depopulation with indemnity. All affected herds shall be reviewed for possible depopulation with indemnity in States which previously had been free of brucellosis, to reduce risk of further spread to other herds.

Q. Diagnostic Reagents for Brucellosis

Brucella antigens used for the diagnosis or detection of brucellosis in domestic livestock will be distributed only to animal health personnel and approved accredited veterinarians.

R. Whole Herd Vaccination Plan

Under this plan, the entire herd is to be blood tested followed by vaccination of the nonreacting cattle. Vaccination will be conducted within 10 days after completion of test and permanent identification, with removal of reactors from premises. Whole herd vaccination plan will not be used in Certified Brucellosis-Free States without the

approval of the State Veterinarian and the Deputy Administrator, Veterinary Services, Animal and Plant Health Inspection Service.

1. *Affected herds*—In affected herds, the individual herd plan may include the use of whole herd vaccination in addition to other recognized procedures for control and elimination of the disease. All herd vaccination may be initiated only upon written permission of the State and Federal officials directly responsible for program activities in the State in which the herd is located. All animals so adult vaccinated shall be additionally identified by an open-ended "V" hot iron brand on the right jaw, or an official "AV" (adult vaccination) tattoo in the right ear or both. A first retest is recommended at 2 months or as early as possible following the whole herd vaccination in order to facilitate elimination of field strain infection. (See Part I, A, last sentence.)

Herds shall resume test and slaughter procedures no later than 6 months following the initial whole herd vaccination. Testing will be at intervals as agreed to in the individual herd plan. Adult vaccination in replacement animals which have passed a negative test within 10 days prior to entry may be used in a herd for a period not to exceed 48 months after initial whole herd vaccination.

Brucellosis affected adult vaccinated beef herds shall be released from quarantine on two negative tests, the first not less than 30 days following removal of all reactors and the second not less than 120 days following removal of the last reactor, as is currently provided in Part II, D, for release of quarantine in affected nonvaccinated herds. Such herd shall be considered negative if all animals in the herd show titers of less than +1 at 1:40 on the CF test or less than +25 on the rivanol test. An additional herd test is required not less than 6 months after release of a vaccinated herd or a nonvaccinated herd from quarantine. Permission for movement of cattle from such herds pending 6 months postquarantine retests is on a State-option basis. A post-sale retest on the cattle moving from previously quarantined AV herds before the 6 months retest shall be required between 120 and 180 days except animals may be tested as early as 45 days after movement if at the time of test at least 6 months has expired since the quarantine release of the herd of origin.

In all herd tests, a presumptive test shall be performed on each test-eligible animal. The card, and CF and/or rivanol tests shall be performed on all presumptive test positive animals. Animals positive to any of these tests, that are not identifiable as official vaccines, shall be classified as reactors.

Official vaccines positive on the card test or having a titer between +2 at 1:10 to +4 at 1:20 on the CF test in herds eligible for release from quarantine shall be classified as suspects and be quarantined individually (not the whole herd) until they are card negative and less than +2 at 1:10 on the CF test.

Dairy herds—All of the foregoing shall apply to "AV" dairy herds. In addition, dairy herds shall be negative to the last milk ring test prior to release from quarantine.

For movement of individual "AV" dairy animals, other than to slaughter, animals shall have less than a 1:16 titer by the milk ring test on individual samples of all quarters.

2. *Herds which are not Certified Brucellosis-Free*—Persons owning herds at high risk of becoming infected with brucellosis which are not Certified Brucellosis-Free, may also request "whole herd" vaccination. The individual herd plan may then include the use of whole herd vaccination in addition to other recognized procedures for control and elimination of the disease. All eligible calves shall also be calfhood vaccinated and identified. Whole herd vaccination may be initiated only upon written permission of the State and Federal officials directly responsible for program activities in the States in which the herd is located. All animals so vaccinated shall be identified in addition to an official eartag by an open-ended "V" hot iron brand on the right jaw, or an official "AV" (adult vaccination) tattoo in the right ear or both. Following vaccination, only the adult vaccinated cattle will be placed under quarantine. Included in the individual herd plan shall be provisions for the herd to be tested within 30 to 120 days following vaccination, and at intervals as agreed to in the individual herd plan, until a negative test conducted at least 90 days later than the first negative test 30 days or longer after the last reactor, if any, is removed qualifies to release the quarantine.

Dairy herds—All of the foregoing shall apply to "AV" dairy herds. In addition, dairy herds shall be negative to the last milk ring test prior to release from quarantine.

For movement of individual AV dairy animals, other than to slaughter, animals shall have less than a 1:16 titer by the milk ring test on individual samples of all quarters.

3. *Certified Brucellosis-Free herds*—Under this plan, owners of Certified Brucellosis-Free herds in an area of high risk of becoming infected with brucellosis may request "whole herd vaccination." The purpose will be to establish an immediate high level of resistance to the present or expected exposure from field strain *Brucella abortus*. Such procedures may be initiated only upon written permission of the State and Federal officials directly responsible for program activities in the State in which the herd is located.

In herds of known status; i.e., Certified Brucellosis-Free Herds, the individual herd plan may include the following whole herd vaccination procedures in addition to other recognized procedures for prevention or control of the disease:

- a. A blood sample shall be obtained from all test-eligible cattle for serologic testing. If all tests are negative, continue to treat as a Certified Brucellosis-Free herd at high risk, but if any cattle are reactors, treat the herd as an affected herd and follow the same rules as for known affected herds. (Par. 1, Affected Herds).

b. In Certified Brucellosis-Free herds with negative serologic tests, but at high risk, all eligible calves shall be calfhood vaccinated and identified. Within 10 days after serologic testing, all other female cattle shall be vaccinated with a reduced dose of Strain 19 vaccine and identified with an official "AV" (adult vaccination) tattoo in the right ear as well as the permanent individual official metal eartag. Following vaccination, only the adult vaccinated cattle will be placed under quarantine. Included in the individual herd plan shall be provisions for the herd to be tested within 30 to 120 days following vaccination, and at not less than 30-day intervals thereafter, until a negative test conducted at least 90 days later than the first negative test 30 days or longer after the last reactor if any, is removed qualifies to release the quarantine. Certified Brucellosis-Free herd status is suspended while the herd remains under quarantine and is reinstated upon release from quarantine provided field strain *Brucella abortus* infection has not been diagnosed in the herd. During such period of quarantine, card test negative adult vaccinated cattle in these Certified Brucellosis-Free herds may move without restriction.

Dairy herds—All of the foregoing shall apply to "AV" dairy herds. In addition, dairy herds shall be negative to the last milk ring test prior to release from quarantine.

For movement of individual "AV" dairy animals, other than to slaughter, animals shall have less than a 1:16 titer by the milk ring test on individual samples of all quarters.

S. Epidemiologic Services

The brucellosis eradication program shall furnish quality epidemiologic services to aid veterinarians and herd owners in brucellosis prevention and control leading toward local eradication. To accomplish this goal, the following epidemiologic-related service shall be instituted:

1. State and federally employed veterinarians having brucellosis program responsibilities shall attend an APHIS brucellosis epidemiology short course or its equivalent within the first year of their assignment. Those currently employed and assigned to this program should also receive this training at the earliest possible date. They shall attend updating courses annually.
2. Accredited veterinarians performing official brucellosis work shall be required to participate in a structured program of continuing education on program elements. At least once during each 3-year period following the initial program they shall attend an updating course on program elements.
3. State livestock inspectors and APHIS animal health technicians shall be required to participate in a structured program of continuing education on program elements. They shall attend updating courses annually.
4. Each State brucellosis program supervisor shall notify the State public health agency at the time, or within 15 days, of the imposition of each herd quarantined

for brucellosis. The public health agency will be requested to mail an educational letter to the owners of quarantined herds.

5. Each State should require an educational statement on brucellosis:
 - a. be given to buyers/sellers at the time of change of ownership of cattle:
 - (1) to create an awareness that brucellosis is a contagious disease;
 - (2) to reduce the risk of buying/selling brucellosis-infected cattle;
 - (3) to encourage post-purchase testing of cattle 45–120 days after change of ownership;
 - (4) to encourage owners to vaccinate calves;
 - (5) to motivate buyers/sellers to take positive actions to prevent the spread of brucellosis.
 - b. be designed to meet varying conditions on a State-by-State or regional basis according to the needs for effective education.
 - c. be written in plain English and have the approval of the responsible State-Federal officials.
 - d. be printed in large, easily readable type on paper which is a contrasting color that will attract the attention of buyers/sellers.
 - e. become a part of the necessary papers involved in any livestock transaction such as brand release, bill of sale, health certificate, etc.; with copies for both buyer and seller.

Example follows:

BRUCELLOSIS IS A CONTAGIOUS DISEASE

Learn How to Reduce Your Risk of Buying Brucellosis-Infected Cattle

\$SAVE DOLLARS—READ THIS

BRUCELLOSIS-exposed cattle may be blood test negative at the time of sale because they are in the incubation stage of infection and still developing into blood test reactors.

TO REDUCE RISKS of spreading disease from cattle that are in the incubatory stages of brucellosis at the time of sale AND TO SAVE DOLLARS, follow these recommendations:

1. Ask the seller to give you information on the BRUCELLOSIS status of the herd or herds of origin of any cattle you purchase.
2. Take appropriate precautions to protect these cattle from exposure to BRUCELLOSIS while in your ownership.
3. Have post-purchase blood tests for BRUCELLOSIS conducted between 45 and 120 days following purchase to check for previously incubating infection.
4. If the blood tests indicate BRUCELLOSIS, request your Doctor of Veterinary Medicine (D.V.M.) and a D.V.M. from the State animal health agency to evaluate the situation and provide assistance to save you dollars that otherwise could be lost.

FOR FURTHER INFORMATION

CALL Telephone Number 000-000-0000

Name and Address of State Animal Health Agency

INCREASE PROTECTION WITH VACCINATION

Vaccination with Strain 19 *Brucella abortus* vaccine is recommended to increase protection for calves that may be sold or exposed to BRUCELLOSIS in the future.

T. Individual Herd Plan

A plan for the elimination of brucellosis from each affected herd shall be developed by the herd owner (and his veterinarian if so requested by the owner) and a veterinarian of the Cooperating Brucellosis Eradication Program. The plan shall be formalized as a Memorandum of Agreement between the owner and the animal health official. With the provision that the plan may be reevaluated and changed, as agreed to by all parties concerned, it shall be the responsibility of all parties to the agreement to adhere to the plan throughout the period of eradication of the disease from this herd.

The plan should be developed to reduce and then eliminate brucellosis within the herd, to prevent spread to others, and to prevent reintroduction of brucellosis after this herd has become free of the disease. Developers of the plan should consider: the classification of the State in which the herd is located, the risk of spread to other herds of cattle (potential "off-site costs" to other herd owners and society), the amount of infection and possible exposure within the affected herd, the type of cattle operation, and the conditions affecting the economics and management of the herd as they relate to control and local eradication procedures. The developers should prepare a written plan that will be epidemiologically sound in terms of this particular individual herd. It would include such items as testing schedules, herd health management practices, procedures to govern preparturient and parturient cows, the exit or entry of cattle into the herd, identification of cattle, sanitation practices, the use of Strain 19 *B. abortus* vaccine, and other appropriate preventive practices. Vaccination of calves should be discussed with the owner and recommended for calves in high-risk areas or that may be sold into high-risk areas. In special situations, whole herd vaccination may be recommended with concurrence of appropriate State and Federal officials.

When suspects are found in herds which are not Certified Brucellosis-Free, or in Certified Brucellosis-Free herds, a similar individual herd plan should be initiated. This plan should include testing schedules and management plans that will minimize spread of brucellosis within the herd or to other herds.

U. Dealer Registration and Recordkeeping

Any dealer who purchases, deals in, or sells cattle; or who acts as a commission representative or broker; or who operates and conducts an auction where cattle are sold must be registered or licensed with the appropriate State agency and maintain required records which will facilitate traceback of exposed and/or reactor animals by State authorities to the herd of origin or other point of original infection.

1. *Dealer registration*—The State agency shall have authority, after due notice and opportunity for hearing to the individual or firm involved, to deny an application for registration, suspend or cancel the registration when the agency is satisfied of one or more of the following:
 - a. there is adequate evidence to establish intent to violate or circumvent recordkeeping requirements of this section and/or other animal health regulations;

- b. there is a demonstrated history of repeated inability to trace back to the point of origin those exposed or reactor animals handled by the dealer.
2. *Records required*—Each registered or licensed person, firm, or corporation shall keep sufficient records, for a minimum of 2 years, of all test-eligible animals purchased for resale to enable the State agency to satisfactorily trace back such animals to their herd of origin.
3. *Violations; Remedies*—Provisions shall exist for State animal health officials to institute such action at law or in equity as may appear necessary to enforce compliance with any provision of this Part. This shall include the authority to subpoena persons and/or records in violation of these minimum standards as well as authority for the appropriate State officials to petition the local court having venue for an order to enforce such subpoenas.

A brand law or regulation which accomplishes the traceback purposes of Section U of this section will be considered an acceptable alternative. Acceptance of this alternative will be based on an overall review of the provisions and accomplishments of the State program in achieving the effective traceback of all exposed and/or reactor animals to the herd of origin or other point of original infection.

Part III

Participation in Herd or Area Certification Plans

A. Obtaining Initial Certification Status To obtain initial Certified Brucellosis-Free Herd status or area certification status, the herds or area must use one or more of the accepted methods listed in Parts IV, V, or VI for qualifying the herds or area and must meet all of the qualifying standards given under Parts IV, V, or VI.

B. Maintaining Certification State and Federal officials in charge of program activities in each State are responsible for conducting a continuous evaluation of the efficiency of local procedures for locating and eliminating infected cattle. The minimum standards as described for each plan in Parts IV, V, and VI, Brucellosis Eradication Uniform Methods and Rules, must be met or exceeded throughout the certification period to maintain continuous status. A review committee including representatives from States, universities, and industry will evaluate each State's brucellosis program as needed, but at least once each 3 years. An annual report showing the degree of uniformity and adequacy of the surveillance measures, suspicious and affected herds disclosed, infected rates, and adequacy of program standards within the area, is required to maintain certification. The annual report content and format is available in Veterinary Services Memorandum No. 551.4, which is revised as needed.

C. Terminating Certification Status Herd or area certification status may be terminated at any time during the period with 10 days' notice if the herd or area does not maintain adequate surveillance measures including adjacent and epidemiological tracing measures or fails to comply with quarantine requirements, with testing schedules, with initial testing schedules for suspicious herds detected by the surveillance measures including those herds designated as adjacent herds and epidemiologically traced herds (see Part II, G), has excessive herd infection rates, or improperly disposes of reactors or exposed animals. If legal action against the livestock owner has been initiated by States' attorneys and is in progress, termination of status may not be considered necessary.

D. Reinstatement of Certification Status When herds or areas lose certification status because of deficiencies in levels of surveillance or in procedures necessary for locating affected herds, controlling infected and exposed animals, and eliminating infected animals as prescribed under the various plans and procedures, the certification status may be reinstated upon presentation of sufficient evidence showing that the deficiencies have been corrected. Areas in which the deficiencies have not been corrected within 6 months of the termination of the status must qualify as for initial certification.

E. Termination of Part V and Part VI

1. *Area status*—Area status of Modified Certified Brucellosis Areas and Certified Brucellosis-Free Areas will be terminated as soon as possible but not later than January 1, 1982. Part V will be amended in its entirety to establish standards for entire States or areas to be classified as Class "C"—Higher Risk of Brucellosis States. Part VI will be amended in its entirety to establish standards for entire States or areas to be classified as Class "B"—Intermediate Risk of Brucellosis States. A new Part VII will be written to amend the Uniform Methods and Rules, establishing standards for entire States or areas to be classified as Class "A"—Brucellosis-Free States.

2. *Standards*—(Proposed standards for such classification are set forth in the report of the National Brucellosis Technical Commission.) Option No. 2 of "Alternative Options for Serologic Test Requirements" as set forth in the report of the National Brucellosis Technical Commission will be implemented by or before January 1, 1982.
3. *Testing procedures*—The USAHA recommended Test Option No. 1 be implemented by December 31, 1982. APHIS considered this recommendation but does not adopt Option No. 1 with an implemented date. The need for Option No. 1 will be evaluated for 2 years. A progress report on the effectiveness of Option No. 2 will be furnished USAHA for determination of the need for Option No. 1 and a later implementation date.
4. *Federal quarantines*—Within Class "A" States, provisions will be made for State-Federal quarantines of circumscribed areas of population without loss or denial of Class "A" status for the State.
 - a. *Exception*—Exception to standards for States to qualify for Class A status and exception to standards to maintain Class A status are as follows:
 - (1) The Chairman of the United States Animal Health Association (USAHA) Brucellosis Committee may appoint a committee of five members to review an application from cooperating State and Federal animal health officials for retention of status as Class A, or advancement to that status when data indicates that State has an area that no longer qualifies as Class A or does not qualify for advancement to Class A status.
 - (2) No State may have more than two such areas.
 - (3) All members appointed to the committee shall be knowledgeable about brucellosis.
 - (4) Members shall represent one of each category: the cattle industry, a university, a State and a Federal animal health official from two nonadjacent States, and a representative of the USAHA Brucellosis Committee.
 - (5) No members shall be residents of the State making the application.
 - (6) The committee, after review of the application and interview of witnesses, as may be deemed necessary, shall recommend approval or disapproval to USDA.
 - b. *Format for application for exception*—States making a request for exception will prepare a cooperative State-Federal agreement. This agreement will include the following specific issues and define the responsibility of each agency:

- (1) The procedures and responsibilities for placement and enforcement of quarantines both on the area and herds within.
- (2) The procedures to permit movement for specific purposes both within the defined area and from the defined area.
- (3) The legal description of geographic boundaries of the areas to be quarantined.
- (4) The specific time period for elimination of all foci of infection.

c. *Requirements for submission of application*—

- (1) The application shall be accompanied by evidence that the majority of the industry members involved in the area participated in development of the proposed plan, are aware of restrictions it will require, and will assist in monitoring and enforcing the plan.
- (2) Prior to submission, the State shall be certain it provides for movements to slaughter, identified with "B" or "S" brand under permit (VS Form 1-27 or equivalent) or for other purposes with a certificate showing a negative test on each animal covered within 30 days of movement.
- (3) Appropriate legal authority and adequate funding must be available.
- (4) The application shall not be for areas larger than two counties with clearly defined boundaries providing geographic barriers compatible with monitoring and restricting movement of cattle from and into the area.
- (5) The time period to eliminate all foci of infection shall be no longer than 2 years.

d. *Monitoring and Reporting*

- (1) Semiannual progress reports shall be submitted to VS.
- (2) The reports shall be reviewed and forwarded to Committee members together with appropriate comments.
- (3) The committee may request additional reports at more frequent intervals and/or more detail on some components of the report.

e. *Termination*

- (1) The area will be terminated and restored or advanced to Class A status when all requirements for Class A have been met.

(2) The area may be terminated and the entire State reclassified as Class B at any time the review committee recommends such action, or at the expiration of the time period approved by the committee.

5. *Two areas in a state*—The USAHA Advisory Committee will assure the following specific criteria will be met as conditions of a recommendation for approval of two area classifications within a State:

- a. *Regulatory authority*—Regulatory authority exists to maintain separate areas within the State.
- b. *Legislative authority*—Legislative authority for maintaining separate areas within the State will be available.
- c. *Resources*—Commitment of resources to maintain separate areas.
- d. *Method*—Creditable method for constraint on movement of animals across the boundary.

Part IV **Certified Brucellosis-Free Herds of Cattle**

A. Qualifying Methods

A herd may qualify by one or more of the following methods:

1. Milk ring test (BRT)

Initial certification: A minimum of three consecutive negative milk ring tests conducted at not less than 90-day intervals, followed by a negative herd blood test conducted within 90 days after the last negative milk ring test.

Recertification: Milk ring test procedures are not used for herd recertification.

2. Complete herd blood test

Initial certification: At least two consecutive negative blood tests of all test-eligible cattle not less than 10 months nor more than 14 months apart. Additional herd blood tests may be conducted if the owner so desires or if the certifying agencies deem it necessary.

Recertification: A negative herd blood test of all test-eligible cattle conducted within 60 days of each anniversary date is required for continuous certification. If the certification test is conducted within 60 days following the anniversary date, the certification period will be 12 months from the anniversary and not 12 months from the date of the recertifying test. If a herd blood test for recertification is not conducted within 60 days following the anniversary date, then certification requirements are the same as for initial certification.

B. Qualifying

1. Size of area—Herd basis including all offspring

2. Length of status—12 months

3. Testing period

Initial certification: 10 to 14 months (minimum of 6 months if BRT is used).

Recertification: A negative blood test of all test-eligible cattle is to be conducted within 10 to 14 months of the last certification date for continuous status.

4. Herd infection rates—The individual herd must disclose no evidence of infection at the time of initial certification or recertification.

5. Animal infection rates—The individual animals must disclose no evidence of infection at the time of initial herd certification or recertification.

6. Suspects—When suspects (Part I, B) are disclosed, an individual herd plan shall be developed for the future testing of the suspect(s) and the handling of the herd as described in Part II, T. This plan may range from a quarantine of the entire herd to a single retest of the suspect using the appropriate tests in Part II, I, "Classification of Cattle".

7. Herd status, if infection occurs—When one or more reactors are disclosed in a certified herd or in a herd under test for initial certification, it shall be considered affected and the quarantine and retest provisions in Part II, D and E shall apply.

Initial certification: A herd qualifies for initial Certified Brucellosis-Free Herd status when free of infection, all provisions for release of quarantine have been met, and the additional provisions required under Part IV, A, 1 and 2, have been met.

Recertification: If a retest of a Certified Herd or of animals from such a herd reveals only one reactor, the certification status will be suspended until all provisions for release of quarantine have been met. If more than one reactor is disclosed, the herd certification will be terminated until all provisions for release of quarantine have been met and the additional provisions for initial Certified Brucellosis-Free Herd status required under Part IV, A, 1 and 2, have been met.

Herd retests for quarantine release and to fulfill the provisions required under Part IV, A, 1 and 2, may be conducted concurrently.

8. Movement of cattle into a Certified Brucellosis-Free herd:

- a. *From quarantined feedlots*—No animal consigned to a quarantined feedlot may be maintained in association with a Certified Brucellosis-Free Herd.
- b. *From other feedlots*—Animals consigned to feedlots other than quarantined feedlots may be held on premises with a Certified Brucellosis-Free Herd, provided these cattle meet the blood testing requirements prior to entry into the feedlot and there is no contact with the Certified Brucellosis-Free Herd.
- c. *From Certified Brucellosis-Free herds or Certified Brucellosis-Free Areas*—No test requirements on breeding or dairy cattle originating from Certified Brucellosis-Free Herds or Certified Brucellosis-Free Areas. Animals added to a Certified Brucellosis-Free Herd under this provision shall not receive new herd status for sale purposes until they have passed a 60–120 day postentry retest.
- d. *From Modified Certified Areas*—Test-eligible cattle (Part I, D) from herds not under quarantine must be blood tested negative for brucellosis within 30 days prior to the date of movement and must be retested negative between 60 and 120 days after being moved. Animals added to a Certified Brucellosis-Free Herd under this provision shall not receive new-herd status for sale purposes until they have passed a 60–120 day postentry retest.
- e. *From Noncertified Areas*—Test-eligible cattle from Tested Herds (Part I, T) must have an additional retest within 30 days of the date of movement and must be retested negative between 60 and 120 days after being moved. Animals added to a Certified Brucellosis-Free Herd under this provision shall not receive new-herd status for sale purposes until they have passed the 60–120 day postentry retest.

**Part V
Modified Certified Brucellosis Areas**

(This status will terminate no later than January 1, 1982) (See Part III, E)

A. Qualifying Methods

An area may qualify by one or more of the following methods:

1. *Milk ring test (BRT)*—The milk ring test shall be conducted at least three times per year at approximately equal intervals, and all herds with positive milk ring test results shall have the entire herd blood tested within 30 days from the date of laboratory tests. To qualify individual herds for initial Modified Certified Brucellosis Area status, the four most recent consecutive tests for each herd during the testing period must be negative. In new or recently assembled dairy herds, one or more consecutive negative ring tests will qualify the herd for area certification purposes provided each milk ring test of samples from such herds is negative. The milk ring procedure will be adjusted in accordance with herd size. The quality of the samples used for the milk ring test will be monitored at the time of collection.

2. *Market Cattle Identification Program (MCI)*

a. *Coverage*

Initial certification: At least 15 percent (10 percent per year during the 18-month testing period) of the breeding cows over 2 years of age from each herd not covered by the milk ring test must be tested under the MCI program.

Recertification: At least 30 percent (10 percent per year during the 3-year testing period) of the breeding cows in the area over 2 years of age from herds not covered by the milk ring test must be tested under the MCI program.

b. *Reactors*—At least 80 percent of the reactors must be successfully traced to the herd of origin and a herd blood test conducted. (See Part II, S.) Herd blood tests shall be conducted within 30 days of disclosure of market cattle test reactors or the herds shall be confined to the premises under quarantine. All market cattle test reactor herds shall be blood tested within 6 months of disclosure of the market reactor. If 70 to 80 percent of the reactors can be successfully traced, then the area may be provisionally qualified under this method, but an annual report of the MCI program coverage in that area will be required.

c. *Reporting results*—All MCI reactors, including the successful and nonsuccessful tracebacks, and blood tests of herds of origin are to be reported in the data when requesting area certification. The data summarizing the successful and nonsuccessful tracebacks for cattle with backtags and for cattle without backtags should be presented separately.

3. *Complete herd blood test*

Initial certification: A complete herd blood test of all test-eligible cattle in each herd which has not qualified for initial certification under Part V, A, 1 or 2, is required.

Recertification: A complete herd blood test of at least 20 percent of the representative herds in the area is required. A different 20 percent will be selected for each recertification. When less than 30 percent of the breeding cows in the area over 2 years of age from herds not covered by a milk ring test are tested under MCI during the 3-year testing period, then a complete herd blood test of at least 20 percent of the representative herds in the area that have not qualified by MCI or BRT coverage is needed.

When an affected herd is found, contact herds shall be handled as described in Part II, G. This provision applies equally for initial certification and recertification of areas.

B. Qualifying Standards

1. *Size of area*—Usually a county; may be other political subdivision. The extent of the area shall be determined by the cooperating State and Federal agencies.
2. *Length of status*—3 years.
3. *Testing period*—18 months immediately preceding request for initial certification; 3 years for recertification.
4. *Herd infection rate*—Not more than 5 percent of the herds or one herd, whichever is greater, in the area shall have been found to be affected during the testing period. If the herd infection rate is more than 5 percent, then the results of the last retest of a sufficient number of the affected herds applied not less than 60 days following removal and slaughter of reactors can be used to reduce the herd infection rate to not more than 5 percent.
5. *Suspect*—When suspects (Part I, B) are disclosed, an individual herd plan shall be developed for the future testing of the suspect(s) and the handling of the herd as described in Part II, T. This plan may range from a quarantine of the entire herd to a single retest of the suspect using the appropriate tests in Part II, I, Classification of Cattle.
6. *Area status, if excessive infection rates occur*—If an area does not qualify for recertification because of excessive herd infection rates, even after herd retest results are used, it shall become necessary to make a complete area retest. If the area completes the necessary testing to qualify for recertification within 6 months after the due date, consideration will be made for reinstating such an area.
7. *Other considerations*—A concerted effort through effective surveillance programs and extensive epidemiological investigations to locate infection and to eradicate the disease is required. (See Part II, G.)

MCI samples showing a standard agglutination titer at 1:25 or above, or that are positive to the card test (see Part II, I), shall be tested further by use of other official and supplemental tests. All of the results are to be furnished to the State of origin. The test results and the herd investigation will be reviewed by a brucellosis epidemiologist in arriving at a diagnosis. Those animals requiring a

followup herd blood test must be successfully traced to the herd of origin as indicated in A, 2, b, above.

8. *Movement of cattle into or within Modified Certified Areas*—All untested test-eligible cattle originating in Modified Certified Brucellosis Areas or noncertified areas moving from a farm or livestock market to a quarantined feedlot or to immediate slaughter shall be identified by branding with a hot iron the letter "S" (at least 2x2 inches) on the left jaw, or high on the tailhead (over the fourth to the seventh coccygeal vertebrae) prior to movement. (See Part II, M, Movement, etc.) Movements without change of ownership, directly from a farm of origin to a slaughtering plant, are exempt from the "S" branding requirements.

The intent is to encourage testing at farms or markets of all test-eligible cattle to detect infected cattle before they move into distribution channels. Detecting reactors at time of movement or sale aids surveillance systems to identify the brucellosis-infected herd which was the source. A test at this time does not detect cattle which have been exposed, since all cattle in the incubation stage of brucellosis may not be reactors. Thus, to reduce the risk of spreading infection from exposed cattle, all purchases should be tested again in 45–120 days following purchase.

Movement for the following purposes:

a. *Feeding:*

- (1) *Movement into quarantined feedlots*—Cattle originating from any herd, except from quarantined feedlots, in any area may be moved without test directly into a quarantined feedlot or to a public stockyard or specifically approved stockyard for sale and shipment to such a quarantined feedlot. (See Part II, M, Movement of Restricted Cattle.) However, testing of test-eligible cattle is recommended to assist in locating affected herds.
- (2) *Movement into other feedlots*—Cattle moved to feedlots other than quarantined feedlots must originate from nonquarantined herds in Certified Brucellosis-Free Areas, or be tested and negative from nonquarantined herds in Modified Certified Brucellosis Areas, or originate from tested herds in noncertified areas. If infection is traced to this feedlot, the feedlot shall be quarantined until released by the slaughter of all quarantined animals in the feedlot, or alternatively by testing procedures. (See Part II, T, Individual Herd Plan.)

- b. *Immediate slaughter*—Cattle originating in any herd in any area may be consigned without test for immediate slaughter directly to a slaughtering establishment or specifically approved stockyard for sale and shipment to such slaughtering establishment. (See Part II, M, Movement of Restricted Cattle.)

c. *Breeding, or purposes other than in 8, a or b.*

- (1) *Movement of cattle from Certified Brucellosis-Free herds or Certified Brucellosis-Free Areas*—there are no test requirements.
- (2) *Movement of cattle from within Modified Certified Brucellosis Areas*—Test-eligible cattle, except from Certified Brucellosis-Free Herds, must be blood tested for brucellosis within 30 days prior to movement or at the first concentration or assembly point upon arrival. “Upon arrival” means either testing before the sale or after the sale, provided all cattle consigned are individually identified and traceable to the consignor and/or the herd of origin. (See Part I, D, Test-Eligible Animals.)
- (3) *Movement of cattle from and within Noncertified Areas*—Test-eligible cattle, except from Certified Brucellosis-Free herds, must originate in tested herds and pass a negative blood test for brucellosis not less than 30 days from the date of the herd test and within 30 days of the date of movement. (See Part I, D and T.)
- (4) *Movement of cattle from Modified Certified Brucellosis Area States and Noncertified States.*
 - (a) All test-eligible cattle moving interstate from any State having a Modified Certified Brucellosis Area or a noncertified area, in addition to the requirements of (2) and (3), must have a permit for entry from the State of destination, be quarantined upon arrival, and be retested in not less than 45 days nor more than 120 days.
 - (b) If the cattle being moved have not changed ownership and are not changing ownership, and if the cattle are from herds which have had a complete herd test and if any cattle which were added to the herd after the herd test were also tested negative, and further, if the cattle being moved have not come in contact with cattle not meeting these requirements, then the requirements of (2), (3), and (4) (a) are not required. (The intent of this exception is to allow grazing associations, farmers, and ranchers to follow normal ranching operations although crossing jurisdictional boundaries during such movements without subjecting their cattle to unnecessary handling and testing.)

d. *Restricted cattle*—All animals in herds or lots blood tested for brucellosis in which reactors are disclosed must be handled in accordance with the provisions in Part II, M (Movement of Restricted Cattle).

Part VI Certified Brucellosis-Free Areas

(This status will terminate no later than January 1, 1982) (See Part III, E)

A. Qualifying Methods

Any area may qualify by one or more of the following methods:

1. *Milk ring test*—The milk ring test shall be conducted at least three times per year at approximately equal intervals, and all herds with suspicious milk ring test results shall have the entire herd blood tested within 30 days, based on date of laboratory test. In new or recently assembled dairy herds, one or more consecutive negative ring tests will qualify the herd for area certification purposes provided each milk ring test of samples from such herds is negative. The milk ring test procedure will be adjusted in accordance with herd size. The quality of the samples used for the milk ring test will be monitored at the time of collection.
2. *Market Cattle Identification Program (MCI)*
 - a. *Coverage*

Plan 1 Herd Basis—At least 5 percent per year during the testing period of the breeding cows over 2 years of age from each herd not covered by the milk ring test; or

Plan 2 Area Basis—At least 10 percent per year during the testing period of the breeding cows in the area over 2 years of age from herds not covered by the milk ring test.
 - b. *Reactors*—Minimum of 90 percent of the reactors must be successfully traced to the herd of origin. (See Part I, S.) Herd blood test should be conducted within 30 days of disclosure of market cattle test reactors or the herds should be confined to the premises under quarantine. All market cattle test reactor herds shall be blood tested within 6 months of disclosure of the market reactor.
 - c. *Reporting results*—All MCI reactors, including the successful and nonsuccessful tracebacks, and test of herds of origin are to be reported in the data when requesting area certification. The data summarizing the successful and nonsuccessful tracebacks for cattle with backtags and for cattle without backtags should be presented separately.
3. *Complete herd blood test*

Initial certification: Complete herd blood test of all test-eligible cattle in each herd which has not qualified for initial certification under Part VI, A, 1 or A, 2.

Recertification: Complete herd blood test of all test-eligible cattle in each herd qualifying under this method. It is strongly recommended that all herds known to have been infected during the current certification period should qualify by a complete herd retest at least 90 days following the blood test for quarantine release.

When an affected herd is found, contact herds shall be handled as described in Part II, G. This provision applies equally for initial certification and recertification.

B. Qualifying Standards

1. *Size of area*—Usually a county; may be other political subdivision provided it is located in a State in which all other areas have achieved initial Modified Certified Brucellosis Area or Certified Brucellosis-Free Area status. The extent of the area shall be determined by cooperating State and Federal agencies.
2. *Length of status*—6 years or until a State has 50 percent or more of its counties approved as Certified Brucellosis-Free Areas; then an annual report is required to maintain and advance Certified Brucellosis-Free Area status.
3. *Testing period*

Initial certification: 18 months immediately preceding request for certification. A 6-month extension, providing a 24-month period for accumulation of data for certification, is permissible if the 18-month period is insufficient to complete testing requirements.

Recertification: 18 months immediately preceding request for recertification. A 6-month extension, providing a 24-month period for accumulation of data for recertification, is permissible if the 18-month period is insufficient to verify the status of the area. For those States with 50 percent or more of their counties as Certified Brucellosis-Free Areas, recertification is maintained and advanced by an annual report.

4. *Herd infection rate*—Not more than 1 percent of the herds or one herd, whichever is greater, shall have been found to be affected during the testing period. There must be no known foci of cattle brucellosis in the area at the time of certification. This includes MCI reactor herds pending test, BRT suspicious herds pending test, and suspects still being tested to determine their status.
5. *Suspects*—When suspect(s) (Part I, B) are disclosed, an individual herd plan shall be developed for the future testing of the suspect(s) and the handling of the herd as described in Part II, T. This plan may range from a quarantine of the entire herd to a single retest of the suspect using the appropriate tests in Part II, I, “Classification of Cattle”.
6. *Area status, if excessive infection rates occur*—If an area does not qualify for initial certification because of excessive herd infection rates, then a new testing period must be established. Areas failing to qualify for recertification because of excessive herd infection rates will revert to modified certified status. If the necessary testing can be accomplished to qualify the area for recertification within 6 months after the due date, consideration will be made for reinstating such an area. For both initial and recertification, all cattle herds in which brucellosis has been known to exist must be legally released from quarantine prior to certification. In addition, all herds of other species of domestic livestock in which brucellosis has been found or suspected must be tested negative, slaughtered, or

quarantined, leaving no known foci of infection in any species uncontrolled at the time of certification. If the annual review required to maintain Statewide Certified Brucellosis-Free Area status indicates excessive herd infection rates within individual counties, the Certified Brucellosis-Free Area status of those counties will be removed within 10 days' notice.

7. *Other considerations*—A concerted effort through effective surveillance programs and extensive epidemiologic investigations to locate infection and to eradicate the disease is required. (See Part II, G.) All suspicious BRT and MCI reactor herds must be tested, and all herds affected with brucellosis shall have been legally released from quarantine. All test results on animals of out-of-State origin are to be furnished to the State of origin. Those animals requiring a followup herd blood test must be successfully traced to the herd of origin as indicated in A, 2, b, above.
8. *Movement of cattle into or within Certified Brucellosis-Free Areas*—Movement for the following purposes:
 - a. *Feeding*:
 - (1) *Movement into quarantined feedlots*—Cattle originating from any herd, except from quarantined feedlots, in any area may be moved without test directly into a quarantined feedlot or to a public stockyard for sale and shipment to such a quarantined feedlot. (See Part II, M, Movement of Restricted Cattle.) However, testing of test-eligible cattle is recommended to assist in locating affected herds.
 - (2) *Movement into other feedlots*—Cattle moved to feedlots other than quarantined feedlots must originate from nonquarantined herds in Certified Brucellosis-Free Areas, or be tested and negative from nonquarantined herds in Modified Certified Brucellosis Areas, or originate from tested herds in noncertified areas. If infection is traced to this feedlot, it shall be quarantined until released by the slaughter of all quarantined animals in the feedlot, or alternatively by testing procedures. (See Part II, T, Individual Herd Plan.)
 - b. *Immediate slaughter*—Cattle originating in any herd in any area may be consigned without test for immediate slaughter directly to a slaughtering establishment or specifically approved stockyard for sale and shipment to such a slaughtering establishment. (See Part II, M, Movement of Restricted Cattle.)
 - c. *Breeding or purposes other than in 8, a and 8, b*:
 - (1) *Movement of cattle from Certified Brucellosis-Free herds or Certified Brucellosis-Free Areas*—there are no test requirements.

- (2) *Movement of cattle from Modified Certified Brucellosis Areas*—Test-eligible cattle, except from Certified Brucellosis-Free herds, must be blood tested for brucellosis within 30 days prior to movement or at the first concentration or assembly point upon arrival. “Upon arrival” means either testing before the sale or after the sale, provided all cattle consigned are individually identified and traceable to the consignor and/or the herd of origin. (See Part I, D, Test-Eligible Animals.)
- (3) *Movement of cattle from Noncertified Areas*—Test-eligible cattle, except from Certified Brucellosis-Free herds, must originate in Tested Herds and pass a negative blood test for brucellosis not less than 30 days from the date of herd blood test and within 30 days of the date of movement. (See Part I, D and T.)
- (4) *Movement of cattle from Modified Certified Brucellosis Area States and Noncertified States.*
 - (a) All test-eligible cattle moving interstate from any State having a Modified Certified Brucellosis Area or a noncertified area, in addition to the requirements of (2) and (3), must have a permit for entry from the State of destination, be quarantined upon arrival, and be retested in not less than 45 days nor more than 120 days.
 - (b) If the cattle being moved have not changed ownership and are not changing ownership, and if the cattle are from herds which have had a complete herd test and if any cattle which were added to the herd after the herd test were also tested negative, and further, if the cattle being moved have not come in contact with cattle not meeting these requirements, then the requirements of (2), (3), and (4) (a) are not required. (The intent of this exception is to allow grazing associations, farmers, and ranchers to follow normal ranching operations although crossing jurisdictional boundaries during such movements without subjecting their cattle to unnecessary handling and testing.)
- d. *Restricted cattle*—All animals in herds or lots blood tested for brucellosis in which reactors are disclosed must be handled in accordance with the provisions of the Uniform Methods and Rules, Part II, M, Movement of Restricted Cattle.

Chapter II—Swine Brucellosis

Part I

Definitions (not alphabetized: see contents for alphabetized listing)

A. Reactor Any swine that disclose complete STT agglutination reactions to the blood titer dilution of 1:100 or higher. Any swine in an infected herd or on an incomplete test of a herd of unknown status having a complete reaction in the 1:25 dilution or higher. Any swine disclosing a positive card test reaction or are found infected by other diagnostic procedures.

B. Suspect Card test positive swine disclosed in a herd which is otherwise serologically, bacteriologically, and epidemiologically negative may be held under herd quarantine until subjected to subsequent tests to determine the status of the animals.

C. Negative Any swine from an infected herd or herd of unknown status that discloses an STT agglutination reaction of less than complete agglutination in the blood titer dilution of 1:25 or that has no reaction to the card test.

Any swine from a validated herd not known to be infected in a validated area, or on a complete herd test that discloses an STT agglutination reaction of less than complete agglutination in the blood titer dilution of 1:100 or that has no reaction to the card test.

D. Herd Test The herd test shall include all breeding swine 6 months of age and older. All swine being held for feeding purposes, separate and apart from breeding swine, are exempted from herd test requirements. All swine tested shall be identified with an eartag, tattoo, or other permanent identification.

E. Feedlot A confined drylot area for finishing feeding swine on concentrated feed with no facilities for pasturing or grazing. All swine in feedlots shall be held separate and apart from all breeding swine.

F. Market Test Swine Sows, boars, and stags moving in trade through auction markets, stockyards, buying stations, or to slaughter establishments; also those sows, boars, and stags assembled at farms or ranches that are being readied for immediate movement to markets, stockyards, or slaughtering establishments or other sales.

G. Successful Traceback of Reactors A successful traceback occurs when the premises or herd of origin of a market test reactor is located and the herd is tested. If the herd has been dispersed or a significant proportion of the herd has been dispersed, the herds of destination of these dispersed animals must be located and the brucellosis status of these dispersed animals established by blood test to claim a successful traceback. Further testing in the herd of destination should be conducted as is deemed necessary. If all animals at the premises of origin were sold for slaughter, a successful traceback can also be claimed. However, if some animals were not sold for slaughter, then the animals sold for return to farms must be traced and tested at destination to claim successful traceback. Tracing to dealers, feedlots, commission firms, and such are not considered successful tracebacks of reactors.

H. Exposed Swine

Swine that are part of a known infected herd or have been in contact with brucellosis reactors in marketing channels for periods of 24 hours or periods of less than 24 hours if the reactor has recently aborted, farrowed, or has a vaginal or uterine discharge are considered exposed regardless of the blood test results and must be placed under quarantine and restricted pending slaughter or testing after return to herd of origin.

I. Infected Herd

A herd in which any of the swine discloses a standard tube test agglutination reaction of complete 1:100 or higher and/or is positive on the card test. The herd may be reclassified by a qualified epidemiologist on the results of additional diagnostic procedures if the percentage of reactor animals is less than 5 percent.

Part II

Procedures—Minimum Program Standards

A. Laboratories

Blood samples are to be tested only by cooperating State-Federal laboratories using appropriate procedures or by such persons as may be authorized to conduct Buffered Acidified Plate Antigen (BAPA) Test and the card test. All card positive and BAPA positive samples tested at other than cooperating State-Federal laboratories shall be promptly submitted and confirmed at the cooperating State-Federal laboratory. Each State or region shall have the laboratory capability of conducting the complement fixation and rivanol tests, and of bacteriological culturing of *B. suis* from tissues and blood. A cooperative system shall exist with State, universities, and industry for regular review of the training and the performance of laboratory personnel and for assisting laboratories in the development of systems of continuing quality control for all laboratory tests and culturing procedures. State and regional laboratories shall be evaluated by a review committee, which includes qualified epidemiologists, at least once in each 3-year period. Individuals conducting on-site testing under the MST Program will be monitored on a continuing basis and formally evaluated on accepted testing procedures annually.

B. Reporting

Brucellosis testing and other activities conducted privately or as part of the official Brucellosis Eradication Program, must be reported immediately to State-Federal cooperating agencies.

C. Supervision

The official Brucellosis Eradication Program shall be supervised by full-time State or Federal veterinarians.

D. Quarantine

All swine in infected herds must be confined to the premises until freed of brucellosis or sold for slaughter under permit. Two consecutive negative herd tests are required for release of quarantine with the first test occurring not less than 30 days after the removal and slaughter of all reactors and the second test to occur not less than 90 days following the first negative test. Herds of origin of MST reactors which fail to reveal additional reactors on a test of the entire herd would not be required to be held under quarantine for additional testing unless evidence suggestive of brucellosis infection or exposure thereto is present.

E. Retest of Infected Herds

Variable according to herd plan selected (see Part VI).

F. Cleaning and Disinfection

Premises shall be cleaned and disinfected under regulatory supervision within 15 days following the removal of reactors or the entire herd for slaughter. An extension of time may be considered under extenuating circumstances. Exemptions from cleaning and disinfection requirements, when indicated, can be authorized by the Cooperating State-Federal officials directing the brucellosis program activities within the State.

G. Classification of Swine

1. *Card test*—Card test results are classified as either negative or positive.
2. *Standard tube test*—The blood titers of swine tested by the STT method are classified by use of the following:

If all of the following apply:

- a. No animals on test with titers greater than I1:100,
- b. Not a retest of an infected herd, and
- c. Complete herd test or incomplete test of a validated herd.

Then use the following:

1:25	1:50	1:100	
	-	-	NEGATIVE
+	-	-	NEGATIVE
+		-	NEGATIVE
+	+	-	NEGATIVE
+	+		NEGATIVE

If one or more of the following apply:

- a. One or more animals on test with titer greater than I1:100.
- b. Retest of an infected herd, or
- c. Incomplete test of a herd of unknown status.

Then use the following:

1:25	1:50	1:100	
	-	-	NEGATIVE
+	-	-	REACTOR
+		-	REACTOR
+	+	-	REACTOR
+	+		REACTOR
+	+	+	REACTOR

3. *Semen plasma test*—The semen plasma test is approved as an official test in boars used for artificial insemination when used in conjunction with the card test and/or the standard tube test. The classification of such animals shall be based on the maximum agglutination titer of either test.

H. Identification of Reactor Swine

I. Immediate Slaughter of Reactors

Reactor swine are to be permanently identified by placing an approved reactor eartag in the left ear.

Reactor swine must be sold for slaughter and removed from the premises under State or Federal permit within 15 days of the date of identification (reactor herds under Plan 2, Part VI, may handle reactors according to recommended procedures of the plan). Reactors shall remain on the premises where discovered until a State or Federal permit for movement to slaughter has been obtained. Movement for immediate slaughter must be to a slaughtering establishment where Federal or State inspection is maintained or to a State or Federal approved market for sale to such slaughtering establishment. Reactor swine upon delivery to the slaughtering establishment shall be slaughtered as soon as practical. The time may be extended for reasons mutually acceptable to the cooperating State and Federal officials in charge.

J. Movement of Quarantined and Exposed Swine

Quarantined and exposed swine must be moved under permit and can be moved for immediate slaughter or returned to the herd of origin. When moved, the swine must be maintained separate and apart from all other classes of livestock. When moved to other than the herd of origin, exposed animals will be individually identified by eartag and the number recorded on the permit.

K. Entering Premises

Persons engaged in the Brucellosis Eradication Program shall be authorized to enter premises to carry out eradication procedures.

L. Services to Owner

Services should be rendered without expense to livestock owners as long as funds for such purposes are available and such services are not required to be performed at owner's expense by State regulations.

Contracts with accredited veterinarians, nonprofessionals, other State and Federal agencies, or with management of privately owned firms are to be used as needed to assist State and Federal animal health personnel accomplish necessary sample collections, animal identification, and other activities.

M. Infected Herd Plan

Advantages and disadvantages of the 3 herd plans in Part VI should be discussed with the owner. Plan 1 should be the plan of choice whenever the owner finds it an acceptable alternative. The herd owner is to sign an agreement to follow one of the 3 herd plans.

N. Human Infection

All human cases of *B. suis* should be reported to appropriate public health officials. An extensive epidemiological investigation should be conducted in cooperation with the public health officials.

Part III

Participation in Herd or Area Validation Plans

- A. Obtaining Initial Validation Status**
To obtain initial validation status, the herd or area must carry out the accepted procedures in Part IV or V for qualifying a herd or area and must meet all of the qualifying standards given under Part IV or V.
- B. Maintaining Validation Status**
State and Federal officials in charge of the program activities in each state are responsible for a continuous evaluation on the efficiency of local procedures for locating and eliminating infected swine. The minimum standards as described for each plan in Parts IV and V, Brucellosis Eradication Uniform Methods and Rules, must be met or exceeded throughout the validation period to maintain continuous status.
- C. Terminating Validation Status**
Herd or area validation status may be terminated at any time during the period if a herd or area does not maintain adequate surveillance measures or fails to comply with quarantine, testing schedules, initial testing schedules for suspicious herds detected by the surveillance measures, or proper disposal of reactors unless legal action against the livestock owner has been initiated by States' attorneys and is in progress.
- D. Reinstatement of Validation Status**
When herds or areas lose validation status because of deficiencies in levels of surveillance or in procedures necessary for locating infected herds, controlling infected and exposed swine, and eliminating infected swine as prescribed under the various plans and procedures, the validation status may be reinstated upon presentation of sufficient evidence showing that the deficiencies have been corrected. Areas in which the deficiencies have not been corrected within 6 months of the termination of the status must qualify for initial validation.

Part IV

Validated Brucellosis-Free Herds of Swine

A. Qualifying Methods

A herd may qualify by one or more of the following methods:

1. *Complete herd test*—Swine herds may be initially validated or revalidated on a negative herd test of all breeding swine 6 months of age and over in the herd.
2. *Market swine testing (MST)*
 - a. *Initial validation*: MST not used.
 - b. *Revalidation*: A minimum of 20 percent of the adult breeding swine (6 months of age and over) in the herd must be tested during the validation period with at least one-half of the MST coverage obtained during the last 6 months of the period. This requires credit back to farm of origin to maintain individual validated herd status. The herd of origin of market swine reactors will be quarantined and the validated herd status suspended until a herd test is conducted. The herd test should be conducted within 30 days of disclosure of the market reactor. Individual herd records for the market swine test results to support this method of validation must be maintained by the State cooperator.
3. *Increment testing*
 - a. *Initial validation*: Increment testing not used.
 - b. *Revalidation*: Adult breeding swine (6 months of age or over) are tested in increments as specified in an approved herd testing plan with each breeding animal in the herd tested at least once during the 1-year validation period.

B. Qualifying Standards

1. *Size of unit—herd basis*—Applies to all offspring including specific pathogen-free pigs from such herds.
2. *Length of status*—12 months.
3. *Testing period*
 - a. *Initial validation*: A herd can be validated on the results of the one negative herd test.
 - b. *Revalidation*: A negative test of all breeding swine (6 months of age or over) conducted within 10 to 14 months of the last validation date or establish that at least 20 percent of the adult breeding swine were tested under a market swine testing program during the year and that at least one-half of sampling occurred during the last 6 months of the validation period, or that all breeding swine (6 months of age or over) in the herd are tested in increments according to a specified herd testing plan with each breeding animal tested at least once during the 1-year validation period.

4. *Herd infection rate*—The individual herd must disclose no evidence of infection at time of validation or revalidation.
5. *Animal infection rate*—The individual animals must disclose no evidence of infection at the time of herd validation or revalidation.
6. *Suspects*—Card test positive swine disclosed in a herd which is otherwise serologically, bacteriologically, and epidemiologically negative may be held under herd quarantine until subjected to subsequent tests to determine the status of the animals.
7. *Herd status, if infection occurs*—When one or more reactors are disclosed in a validated herd or in a herd under test for initial validation, it shall be considered infected and the quarantine and retest provisions in Part II, D and E, shall apply.
 - a. *Initial validation*—A herd qualifies for initial Validated Brucellosis-Free status when free of infection, all provisions for release of quarantine have been met, and when the additional provisions required under Part IV, A, 1, have been met.
 - b. *Revalidation*: If on a complete or partial test of a validated herd, reactors are disclosed, then herd validation status is terminated until all provisions for release of quarantine have been met, and until the additional provisions for initial Validated Brucellosis-Free herd status required under Part IV, A, 1, have been met.

Herd retests for quarantine release and to fulfill the provisions required under Part IV, A-1, may be conducted concurrently.
8. *Movement of swine into Validated herds from:*
 - a. *Validated Brucellosis-Free herds*—No test requirement.
 - b. *Nonvalidated herds in any area and not under quarantine and added for breeding purposes*—Individual animals must have two consecutive tests at least 60 days apart with the second test within 30 days of movement. With bred sows and gilts the second test should be at least 30 days after farrowing.
 - c. *Feedlots*—Swine from feedlots may not be added to Validated Brucellosis-Free herds. However, swine may be consigned to feedlots on validated herd premises without test provided such swine are held in isolation separate and apart from all breeding stock.
 - d. *Slaughter channels*—Slaughter swine may not be added to Validated Brucellosis-Free Herds.

9. *Movement of swine semen for artificial insemination into Validated herds from:*
 - a. *Purebred herds*—Purebred herds from which semen is collected must be validated on the basis of herd blood tests.
 - b. *Commercial boar studs*—Commercial boar studs from which semen is collected must be validated on the basis of herd blood tests and herd semen agglutination tests.

Part V

Validated Brucellosis-Free Areas

A. Qualifying Methods

An area may attain Validated Free status by successfully carrying out the requirements of the three qualifying stages.

1. Stage I

- a. States can enter Stage I by submitting a joint statement by the area veterinarian in charge and responsible State official to the appropriate Veterinary Services Regional Director, stating:
 - (1). That all State authorities listed below exist and are in effect; or if any of the listed authorities do not exist the statement should explain steps that are expected to be taken to gain authority or why they are not felt to be necessary for the program in that State.
 - (a). Authority to place and maintain quarantine on any premises on which swine are infected with or exposed to brucellosis or suspected of being infected.
 - (b). Authority to regulate intrastate movement of swine infected with or exposed to brucellosis.
 - (c). Authority to perform necessary tests and epidemiological investigations to determine the presence or absence of brucellosis in swine.
 - (d). Authority to require proper identification and disposal of brucellosis infected and exposed swine.
 - (e). Authority to require cleaning and disinfection of premises, vehicles, and equipment which may have been contaminated by swine infected with brucellosis.
 - (f). Authority to conduct and control the procedures for testing and reporting all tests.
 - (g). Authority to require tattoo or other approved individual identification for intrastate movement of slaughter swine (sows and boars) which is compatible with approved identification methods for interstate movement.
 - (h). Authority to maintain farm or origin identification records in a manner that makes traceback of swine possible, and said records be made available to regulatory personnel for program purposes.
 - (i). Authority to require change of ownership testing on breeding swine from nonvalidated herds.

- (2). That they have established a state swine brucellosis committee composed of producers and representatives of other industry groups.
- (3). That all individuals and firms responsible for identifying swine under 9 CFR Part 78 are in compliance.
- (4). That they participate in a Validated Brucellosis-Free Herd Program.

b. *Stage I—Requirements*

- (1). Quarantine and promptly test all suspicious herds to establish status. Depopulate or initiate an active retest program for those determined to be infected.
- (2). Tag and slaughter reactors within established time limits.
- (3). Comply with all provisions of the Uniform Methods and Rules (UM&R), Chapter 2, that are not dependent upon action by, or in, another State.
- (4). Utilize informational material prepared by USDA information staff and other cooperating agencies for distribution through such routes as the Cooperative Extension Service, university swine disease specialists, State veterinary publications and appropriate news agencies.
- (5). Prepare an educational statement intended to accompany all breeding swine on transfer of ownership.

2. *Stage II*

a. States can enter Stage II by documenting that they have met all of the requirements of Stage I.

b. *Stage II—Requirements*

- (1). Compliance with all Stage I requirements.
- (2). An active program to locate and eliminate infection. Any of the following basic surveillance programs can be selected:
 - (a). *Complete herd (area) testing*—test all breeding swine over 6 months of age in the qualifying area. The complete herd test must be conducted within the 18-month period prior to the date of validation is requested.

(b). *Slaughter surveillance (alternate method 1) during a 1-year period:*

(i). Test all herds selling breeding stock.

(ii). Test 90 percent of the sows and boars marketed from the area each year at slaughter.

(iii). Trace 90 percent of the reactors to their herds of origin and eliminate the disease by testing or depopulation.

(c). *Slaughter surveillance (alternate method 2) during a 2-year period:*

(i). Test all herds selling breeding stock on the farm.

(ii). Maintain traceback capability from slaughter to origin at 50 percent, or greater (see Traceback Capability Chart) and eliminate the disease by testing or depopulation.

3. *Stage III—Validated Brucellosis-Free status*

a. *A State will be initially validated as a brucellosis-free area when it meets the qualifying standards in Part V, Section B of the UM&R, and:*

(1). It has carried out the requirements of the selected surveillance method shown in Stage II, or

(2). It has not had a diagnosed case of swine brucellosis in the preceding 12 months and a statistical analysis of combined tests' results (MST, change of ownership, farm, validation, diagnostic test, etc.) conducted during the period shows an effect equivalent to the surveillance attained by an alternate method.

b. *Revalidation*

(1). *Complete herd testing*—Validated States or areas may be revalidated by a negative herd test on all breeding swine 6 months of age or older. The complete herd test to be conducted within the 18-month period prior to the date revalidation is requested.

(2). *Slaughter surveillance (alternate methods)*—The entire State may maintain its validation status if the following procedures are carried out:

(a). The traceback capability from slaughter is maintained at 50 percent or greater, herds of origin of successfully traced reactors are tested, all MST reactors and tests of herds of origin of reactors must be reported.

(b). When infection is found, the herd of origin is freed of infection within 6 months and an epidemiologic investigation is carried out to determine extent of spread.

(3). *Combined surveillance*—States that have met all other requirements but are unable to qualify for revalidation due to their inability to completely satisfy the surveillance requirements of complete herd testing or the alternate method may qualify by showing an equivalent level of surveillance has been achieved by a combination of procedures. (See Part V, 3, a, (2).)

B. Qualifying Standards

1. *Size of area*: Usually an entire State; counties may validate or revalidate by the area method.
2. *Length of status*—3 years.
3. *Testing period*
 - a. *Initial validation*: 18 months immediately preceding request for validation when qualifying by the market testing program or complete herd test method. Twelve months immediately preceding request for validation for alternate method 1 and 24 months when alternate method 2 is used.
 - b. *Revalidation*: 18 months to 3 years depending upon method of qualifying herds.
4. *Herd infection rates*
 - a. *Initial validation*: Not more than 3 percent of the herds or one herd, whichever is greater, shall have been found to be infected during the qualification period. There must be no known foci of swine brucellosis in the area at the time of validation.
 - b. *Revalidation*: There is no acceptable level of infection in a validated State. Indigenous or introduced infection found after the qualifying period will cause loss of status if spread occurs or if the herd is not freed of the disease by testing or depopulation within 6 months. Lost status may be reinstated on the recommendation of the appropriate regional epidemiologist who documents that all deficiencies have been corrected and an effective epidemiological investigation to locate additional infection has been carried out.
5. *Animal infection rates*—Animal infection rates not considered.
6. *Suspects*—Card test positive swine disclosed in a herd which is otherwise serologically, bacteriologically, and epidemiologically negative may be held under herd quarantine until subjected to subsequent tests to determine the status of the animals.

7. *Area status, if excessive infection rates occur*—If an area does not qualify because of excessive herd infection rates, a new testing period must be established. All herds in which brucellosis has been known to exist must be legally released from quarantine prior to area validation.
8. *Movement of swine into or within Validated Brucellosis-Free Areas for the following purposes:*
 - a. *Feeding*—Feeding swine consigned to feedlots may move into or within validated areas without test provided such swine are maintained in isolation separate and apart from all breeding stock.
 - b. *Slaughter*—Swine consigned to slaughter may move into or within validated areas without test. Such swine may not be diverted en route for any other purpose.
 - c. *Breeding or purposes other than 8,a and 8,b.*
 - (1). *Swine from Validated Brucellosis-Free herds or herds in Validated Brucellosis-Free Areas*—No test requirements. Swine must be moved directly and must not have been in contact with swine of lesser status.
 - (2). *Swine from Nonvalidated herds in Nonvalidated Areas*—Individual swine from nonvalidated herds in nonvalidated areas must have a negative test within 30 days prior to the date of entry into a Validated Brucellosis-Free Area. These swine must be held in isolation and pass an additional test conducted between 60 and 90 days from the date of the test for entry before being added to the herd.
9. *Movement of swine semen for artificial insemination into Validated Areas from:*
 - a. Purebred herds from which semen is collected must be validated on the basis of herd blood tests.
 - b. Commercial boar studs from which semen is collected must be validated on the basis of herd blood tests and herd semen agglutination tests.

Part VI
Plans for Eradicating Brucellosis from Infected Swine Herds

A. If infection is disclosed in swine herds, one of the following plans should be selected for eradicating the disease. Infected herds under test for area validation status should also choose one of these plans to eradicate brucellosis from the herd.

1. *PLAN 1*—This plan is recommended for commercial herds found infected. The following procedures should be carried out:
 - a. Market the entire herd for slaughter as soon as practicable.
 - b. Clean and disinfect houses and equipment.
 - c. Restock premises with animals from Validated Brucellosis-Free Herds, placing them on ground that has been free of swine for at least 60 days.
2. *PLAN 2*—This plan is recommended for use only where it is desired to retain valuable blood lines. The following procedures should be carried out:
 - a. Separate pigs from sows at 28 days of age or younger and isolate.
 - b. Market infected herd for slaughter as soon as practicable. Infected sows should not be rebred and should be slaughtered as soon as possible. Complete isolation of infected animals is essential. The separated weanling pigs form the nucleus for establishment of the infection-free herd.
 - c. Test the gilts to be used for the following season about 30 days before breeding. Save only the gilts that are negative. Breed only to negative boars.
 - d. Retest the gilts after farrowing and before removing them from individual farrowing pens or crates. Should reactors be found, they should be segregated from the remainder of the herd and slaughtered as soon possible. Select only pigs from negative sows for breeding gilts.
 - e. If reactors are found in step d, the process is repeated.
 - f. Following two consecutive negative tests not less than 90 days apart, the herd is eligible for quarantine release.
3. *PLAN 3*—This plan is not recommended in general, but it has been found useful in herds where only a few reactors are found and where no clinical signs of brucellosis have been noted. Carry out the following procedures:
 - a. Market reactors for slaughter.
 - b. Retest breeding herd at 30-day intervals, removing reactors for slaughter, until the entire herd is negative.

- c. If the herd is not readily freed of infection, abandon this plan in favor of Plan 1 or Plan 2.
- d. Following two consecutive negative tests not less than 90 days apart, the herd is eligible for quarantine release.

B. Traceback Capability Chart

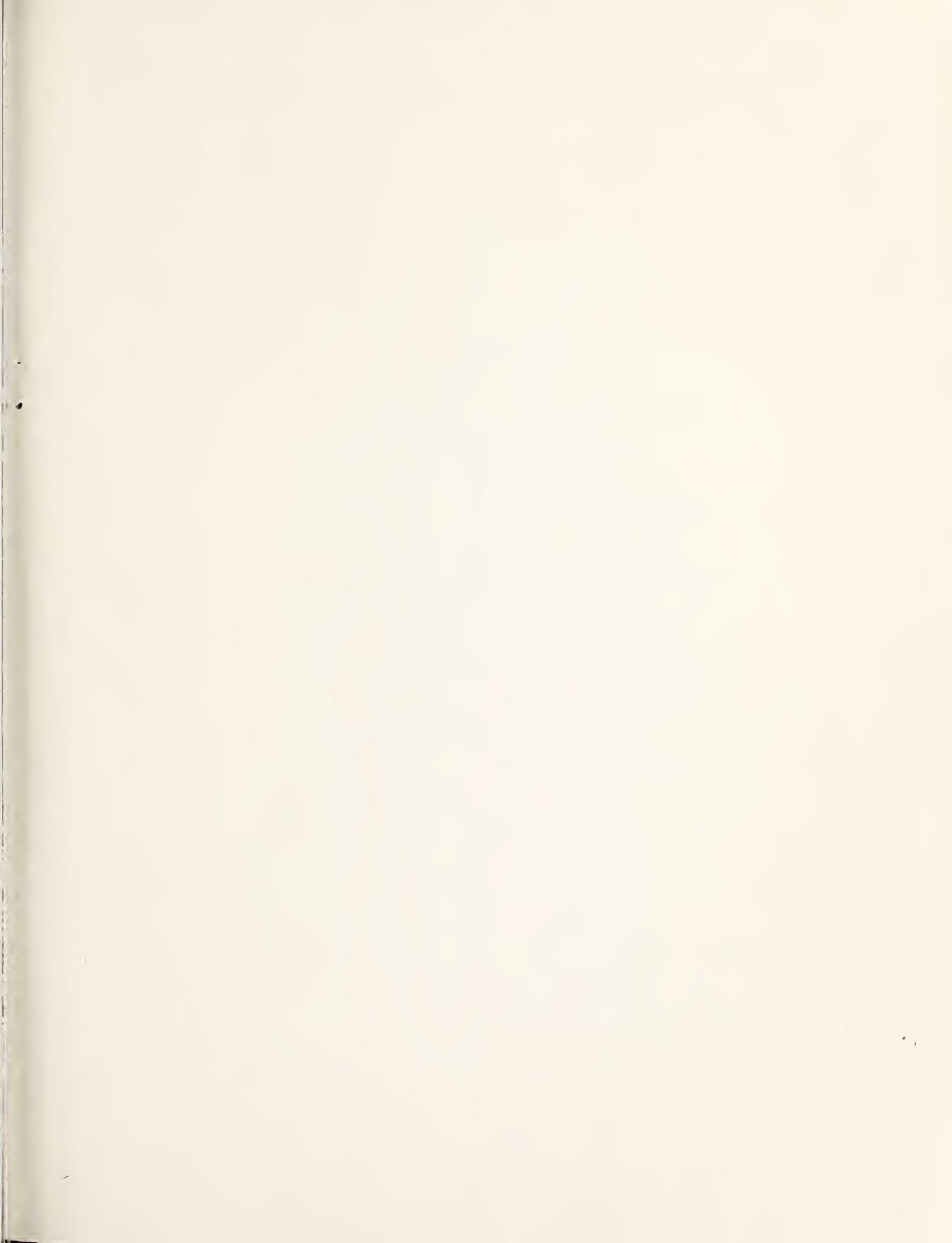
Probability of Successful Traceback Based on Percent of Animals Sampled and Identified

Percent Reactors Traced

Percent Sampled	50	55	60	65	70	75	80	85	90	95
50	25	27	30	32	35	37	40	42	45	48
55	27	30	33	36	38	41	44	47	49	52
60	30	33	36	39	42	45	48	51	54	57
65	32	36	39	42	45	49	52	55	58	62
70	35	38	42	45	49	52	56	59	63	67
75	37	41	45	49	52	56	60	64	67	71
80	40	44	48	52	56	60	64	68	72	76
85	42	47	51	55	59	64	68	72	76	81
90	45	49	54	58	63	67	72	76	81	86
95	48	52	57	62	67	71	76	81	86	90

The point of intersection of the "traced" and "sampled" columns indicate traceback capability. Example: A sampling rate of 80 percent with 70 percent of the reactors traced would provide a traceback capability of 56.









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